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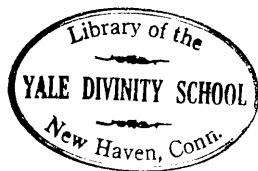












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**TO**

The China Medical Missionary Journal.

Vol. XV, 1901.

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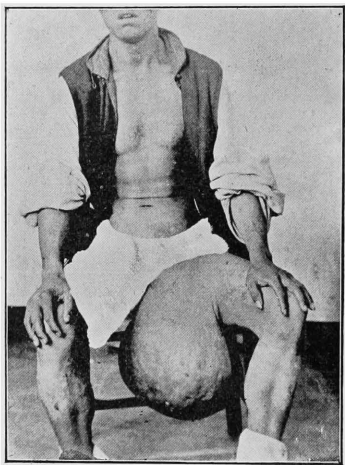


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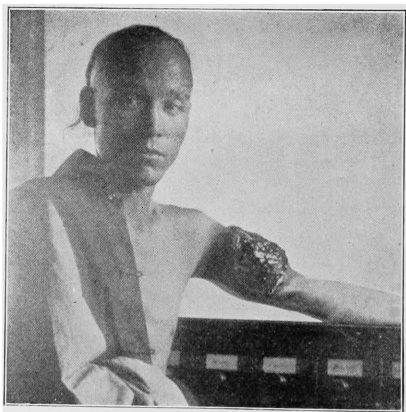






A CASE OF TUMOR.

*(See Page 19.)*



▲ BENIGN TUMOR.

*(See Page 15.)*

# The China Medical Missionary Journal.

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No. 1.

## Original Communications.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editor six weeks before date of publication to insure their appearance in the following number. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

### THE SIEGE OF PEKING—ITS MEDICAL ASPECTS.

By LILLIE E. V. SAVILLE, M.D.

The readers of the JOURNAL may be interested in the following details of the siege of Peking :—

As there have been, and still will be, detailed accounts, I do not propose to do more than give you one that may specially interest medical men and women.

The large proportion of the medical faculty represented in the siege was truly remarkable ; altogether there were of all nationalities twenty men and women with medical and surgical degrees, including Dr. Ts'ao, a Chinese worker of the Methodist Episcopal Mission, who had received his education in the States, also a retired naval surgeon now acting in another capacity.

The missionaries among them were Dr. Ingram, of Tungcho ; Drs. Inglis and George Lowry, of Peking ; of the ladies Dr. Terry, of Tsun-hua ; Drs. Gloss, Leonard, Mackie, Martin and myself, also Mrs. Baillie, wife of Mr. Baillie, of the Peking University, formerly a missionary. Mrs. Baillie has for some months been giving her services to the London Mission Hospital. Of the remainder two had come up with the marines and four others were connected with their various Legations.

On June 21st the International Hospital was organized in the British Legation ; Mr. Cordes, who was wounded at the time the German Minister was killed, and a young Russian student with a penetrating wound of the left shoulder-joint, being the first patients. Miss Lambert, a nurse connected with the S. P. G. Mission, was asked to take charge of the nursing arrangements ; Dr. Poole, of the British, and Dr. Velde, of the German Legation, were the staff. The women doctors were asked to act as nurses, which we gladly did ; Drs. Leonard, Mackie and Martin taking charge at night, while Dr.

Gloss and I divided the day between us, and we were fortunate in getting a good deal of the surgical work, dressings, operations, anæsthetics. There were two trained nurses and other ladies also to help.

Those of us who had had to leave our homes at an hour's notice had of course very few drugs, and no dressings. The British Legation was poorly stocked, as Dr. Poole had only just come out; fortunately Dr. Velde had a large supply, all of the German army type—iodoform gauze tied up in little packets, very compressed, to be cut into strips, white muslin gauze squares, about 5 × 5 in., folded and compressed into another very small package. He had also a steriliser, which had to be used later when muslin curtains took the place of the white gauze, and bags of peat or saw dust that of wool. Instruments were always sterilized for operation.

To most of us the experience of shot and shell wounds was new, and we had much to learn. The hospital first occupied two rooms in the Chancery bungalow, but gradually, as the number of wounded grew, we had to take over more rooms, till finally we had an operating room with two tables, five wards, three beds for five patients in the hall, and a convalescent ward for officers and civilians in Lady Macdonald's house, and another for the marines elsewhere. Three American ladies superintended the kitchen and stores; these were beyond all praise. Of course the hospital had first claim to commissariat stores, but nowhere else was there such fragrant pony soup, such really eatable mule stew; and I think the officers and men often thought it was worth while to be *slightly* wounded to get a few days good feeding.

Owing to the difficulties of 'diverse tongues' the men were 'warded,' wherever possible, by nationality; at any rate no man was in a room where he could not talk to some one. Italians and French were together, with a French sister in charge; Russians in another room, where they were most tenderly cared for by Madame de Giers herself,—the Minister's wife, with them Germans were often put, one room was always full of the bright interesting little Japs. English and Americans naturally went together. There was one ward for officers and civilian volunteers, and here we nursed British, American, German, French, Italian, Austrian, Dutch, Australian and Russian. It was wonderful how our stores and supplies came in; beds and bedding, shirts and all that was necessary. They represented very much self-denial on the part of others and exhibited many expedients. The under pillows were made of straw from the picking of wine bottles, eider-down quilts were cut up for soft pillows, a long piece of Chefoo silk, found in the Mongol market, made shirts, as did best damask linen and bright yellow cotton. "Imperial" shirts these were called. There were very few bedsteads; mattresses were placed on the floor, but every man did have a mattress from somewhere, also sheets and pillows.

But I had not meant to go into domestic details; only we all felt the hospital, more perhaps than anywhere else, shewed the gracious way in which God supplied all our wants, just day by day as we needed.

Some of the marines had first aid dressings in their haversacks, but by no means all; and I believe the civilian volunteers had none, so that on admission to hospital the wound was just as it had been received. It was first examined as to entrance and exit points; the parts around washed and then a plugging of iodoform gauze lightly pushed in, or if penetrating, pushed clear through. Very rarely was there any examination of the interior, even if no wound of exit were present. The bullet was rarely hunted for at the first dressing. Over the wound were doubled up several pieces of the white muslin squares, then a pad of wool, and then a bandage. The hæmorrhage used to surprise me very much indeed; dressings were soaked in an hour or two, and packed again and again. At the second dressing, from the third to the seventh day, one saw that the thick, firm coating of congealed blood was the best air proof medium that could have been devised. Our great enemies were flies; we had a plague of flies! but more of them anon.

The character of the wounds was not that of open warfare, for the fighting was all behind barricades. Consequently the proportion of head injuries was large. Three penetrating wounds of head did well, though two had facial paralysis, and one required to have enucleation of right eye. Mr. B., an Austrian lieutenant, had a bad shell wound of the vault. About  $2 \times 2$  in. of bone was removed, and dura mater exposed and brain. There was very severe hæmorrhage from the longitudinal sinus, but he did remarkably well, and in about a fortnight left the hospital as a convalescent patient. As a good deal of pus began to well up from the wound, it was decided to operate, and the opening was enlarged by chisel; some pieces of dead bone and of lead were removed. He came round from the anæsthetic smiling and contented as usual as if he had wakened from a nap, and in a few days was up and about again. The day of the relief he went out as a convalescent, and as the wound did not require frequent dressing, was not seen for two days. He was brought back with a temperature of  $104.5^{\circ}$ ; was very restless and delirious, and next day developed a purpuric rash on the hands, which quickly spread to trunk and limbs. A diagnosis of typhus was made, which gave place later to one of meningitis. He had to leave the British Legation when the hospital was broken up, but I heard from Dr. Velde a fortnight later that he had recovered completely and left Peking. The after-history of the case will be interesting.

There were several severe wounds of shoulder, and more so of elbow joint. In one case the bullet entered the outer side of right arm, passed probably through the shoulder joint into the lung. The patient had some cough, hæmoptysis and orthopnoea, and for a time was very ill, and then

began to improve rapidly, and the lung symptoms passed off. Some weeks later he complained of pain on the right side just outside the level of the seventh and eighth dorsal spines, but there was no definite tenderness, nor physical signs indicating the presence of a bullet.

Secondary operations undertaken on account of symptoms often disclosed bits of material—shirt or trouser—which had been driven into the wound, or the missing bullet or fragment of shell. But the proportion of shell wounds was small; one of face was fatal. The piece of shell had passed through the right side of face, leaving only a narrow strip of natural tissue between entrance and exit. The lower jaw was almost all gone, the upper maxilla shattered. The wounds were attended to and patient put to bed, but shortly it was found that the arch of the palate was practically gone, the fragments above pressing in the glottis and producing asphyxia. I had my fingers in the mouth holding up the palate while tracheotomy was rapidly performed; anæsthesia was not required, and the patient died two hours later.

There were three perforating wounds of larynx. One died before the tracheotomy was completed, another on the second day, the third did splendidly, recovered his voice and returned to slight duty before the siege was over.

Two cases of compound fracture of tibia developed tetanus. The first, a German, complained on the morning of the fifth day of severe occipital pain, and by noon trismus was well marked, and after two days of intense suffering for himself and for those who watched him, he died. He had large doses of *chloral* and *bromide of potassium*, and *morphine* hypodermically. The wound was not foul.

The second case was Mr. N. of the Japanese Legation. In his case there was no wound of exit. On the second day it was found that flies had got under the upper layers of bandage and freely laid their eggs, and this although he had had his wife's private nurse constantly with him to fan. The bandages were removed and the dressings underneath the splint found to be quite clean; the limb was carefully washed with creolin and the splint reapplied, and he was moved into another bed with fresh bedding. Odour from the wound was noticed next day, and though the dressings were frequently changed the discharge became most foul. On the ninth day it was decided to explore for the bullet. He did not take the chloroform well; breathing was irregular and peculiar in character; in fact I remarked it was as if he had diphtheritic diaphragmatic paralysis. The bullet was found, and a counteropening made for drainage. For the next two days he complained of being very tired, disinclined to talk and refused food; finally saying it was because his teeth would not bite. This was found to be the case, but there was no difficulty with swallowing. Gradually he developed slight tonic contractions; first



of hands, then trismus, but never very marked. There were one or two attacks of opisthotonos just before death, which occurred four or five days after operation. He had *chloral hydrate*, gr. xxx., four-hourly as long as he could swallow and hypodermic injections of morphia.

We had an exciting case of strychnine poisoning. A Russian had taken "a little" from a small bottle looted from the store, thinking it to be bicarbonate of soda. He was said to have vomited ten minutes after. When seen in the hospital, probably half an hour later, 9.30 a.m., he was comatose, breathing stertorous, opisthotonos and convulsive twitchings all over. Chloroform inhalation was commenced at once and administered continuously for two and a half hours. As soon as relaxation occurred all efforts were made to pass the stomach tube. Though for a long time unsuccessful they provoked very free vomiting, and when the tube was at last passed the stomach was well washed out. At noon the limbs were fairly relaxed, and only trismus was marked, with occasional convulsive seizures and opisthotonos. The moment these re-commenced chloroform was started again. By three o'clock the attacks were only half-hourly, and after 4.45 they ceased, and he was able to drink. He seemed anxious to sleep and very thirsty. The next morning he got up and dressed, and the following day returned to duty.

Towards the close of the siege several were invalided with diarrhœa and dysentery; there were two deaths from the latter among the Russians, but they were known to be exceedingly careless about their drinking water. We had three cases of typhoid, one of whom died after his removal to Tientsin. During the siege we had no death in hospital of any who had survived his injury twenty-four hours, except the two cases of tetanus. There have been two since—one a penetrating wound of pelvis, which became very septic with a good deal of diseased bone-ilium, and one bullet wound of head with extravasation of brain matter—the bullet not extracted.

No notes of cases were kept during the siege; this was a cause of great regret, but no one had the time; we kept the barest statistics, a summary of which I enclose. Pei-t'ang is the Roman Catholic Cathedral which was distant some four miles from us, and also in a state of siege. Explosion from mines is responsible for most of their casualties.

This is the merest sketch, and from memory; I have no data. The unity which was such a striking feature of the siege in Peking was nowhere more manifest than in the International Hospital. Differences of nationality, creed and professional status were laid aside, and all worked with much happiness together.

*London Mission, Peking.*

## CASUALTIES DURING THE SIEGE IN PEKING.

*June 20th to August 14th, 1900.*

			Killed and died of wounds.		Wounded.		Casualties.	Died of Disease.		Volunteers		Total.	
	Officers.	Men.	Officers.	Men.	Officers.	Men.		Officers.	Men.	Killed.	Wounded.	Killed.	Wounded.
<b>A. LEGATIONS.</b>													
American	3	53		7	2	8	30.3			1		7	11
Austrian	5	30	1	3	3	8	42.8					4	11
British	3	79	1	2	2	8	28.1			3	6	6	26
French	3	45	2	9		37	100.0			2	6	13	42
German	1	50		12		15	54.9			1*	1†	13	16
Japanese	1	24		5		21	104.0			5‡	8	10	29
§ Russian	2	79		4	1	18	28.3	2		1	1	7	20
Italian	1	28		7	1	11	65.5					7	12
<b>Total,</b>	<b>19</b>	<b>388</b>	<b>4</b>	<b>49</b>	<b>9</b>	<b>136</b>	<b>48.7</b>	<b>2</b>		<b>12</b>	<b>23</b>	<b>67</b>	<b>167</b>
<b>B. PEITANG.</b>													
French	1	30	1	4		8	41.9					5	8
Italian	1	11		6	1	3	83.3					6	4
<b>Total,</b>	<b>2</b>	<b>41</b>	<b>1</b>	<b>10</b>	<b>1</b>	<b>11</b>	<b>53.3</b>					<b>11</b>	<b>12</b>
<b>Grand Total,</b>	<b>21</b>	<b>429</b>	<b>5</b>	<b>59</b>	<b>10</b>	<b>147</b>	<b>49.1</b>	<b>2</b>		<b>12</b>	<b>23</b>	<b>78</b>	<b>179</b>

NOTES.—Wounded means incapacitated for duty, not simple wounds which could be dressed and the men sent back to duty.

Number of French wounded seems large, because they included all wounds, whether incapacitating for duty or not.

\* Baron von Kettler.

† Mr. Cordes.

‡ Captain Ando.

§ Includes Cossacks of Legation.

## HOSPITALS AND DISPENSARIES.\*

By ROBERT CASE BEEBE, M.D.

I take it for granted that it is generally conceded by missionaries on the field, as well as by those at home most interested, that a physician is a necessary adjunct to mission work. Hospitals and dispensaries have demonstrated their efficiency as a missionary agency, and at this stage of the church's work in unchristianized lands, no arguments are needed to prove the desirability of their establishment in suitable localities.

Medical missions have become a part, and no small part, of the greatest movement into the regions beyond that the church has ever planned or undertaken. Their spirit came with the great head of the church and his spirit has characterized their work.

\* Read before the Ecumenical Conference in New York City, April, 1900.

It is not my purpose, therefore, to argue for medical missions, but to consider some of the questions connected with their inauguration and management.

#### PURPOSE.

It is very important in considering medical missions to keep in mind their real purpose. All questions connected with them should be considered in the light of this purpose. One's attitude toward all features of their work will be modified by his conception of this vital point. Before such work is undertaken by a mission and before a physician enters upon such work, there should be positive and clear ideas of its real object.

When we consider that medical missions are undertaken and conducted by societies of the church whose one great purpose is the evangelization of the world, whose revenues are secured on that plea and whose life and energies are due solely to that great vitalizing idea, it is evident that medical missions have this same great purpose also, that it is embodied in the great commission given by Christ to His followers to go and disciple all nations.

On account of their *character* they necessarily embody more than this, for they are eminently philanthropic and benevolent in their acts and results.

Because of their *character* they appeal to all classes alike, because of their *purpose* they receive the hearty support of the church, and their continuance is made possible through the consecration of their workers.

#### HOSPITALS OR DISPENSARIES.

The question naturally arises when medical work is projected as to whether it should be done through a hospital or dispensary or both. I would say that as soon as possible it should be done through both, and as a rule, from the beginning. There may be circumstances that make it wise to delay the locating of a hospital.

Where there is no previous acquaintance with the city chosen or its surrounding territory, it is well to study the ground before permanently fixing the site, and this can be done advantageously by renting a place and conducting a dispensary. However, to accomplish the most, both evangelistically and professionally, there should be a hospital. The dispensary, from a missionary standpoint, is like the street chapel. It has the advantage, however, of a more regular audience and a favor and goodwill gained by the medical work done. But, as in the case of a street chapel, its audience is constantly changing. Many come but once, and these are liable to get an inadequate idea of the gospel message presented to them. By means of a dispensary much seed sowing can be done, and it serves admirably to advertise Christian work, but a hospital is naturally required to complete the medical work begun, and it is in the wards and regular daily services of the hospital

that the gospel is made plain and exemplified. The hospital affords time under the most favorable circumstances for leading men to Christ.

#### ESTABLISHMENT.

Understanding their purpose and character and not confounding the two we come to consider their establishment. The importance of right beginnings of any kind of work on mission ground cannot be too strongly emphasized.

We come to a people whose friendship and favor we must first gain before we can present to them with any probability of success, the message of our mission. The continuance of first impressions upon the people, the continuance of the initial spirit of a mission have been so often observed that the value of right beginnings in a mission station can be properly estimated only as we remember that they are giving character to an infant church.

#### ***When to open Medical Work.***

Given then a conception of its purpose and a proper spirit for its conduct, it is desirable that medical work be one of the first agencies used in opening a station.

#### ***How to open Medical Work.***

It should be started by a mission with funds from the church or individuals of the church. Christianity should have all the credit and influence the inception of such work exerts, and it should be free to exert its whole influence for Christ. From this it does not follow that we should not accept help from the natives, but it is better for such help to come later when we have demonstrated the spirit and character of the work. It can be then received without any restrictions on the work, either expressed or implied. Win by good work a willing and cheerful patronage. Support given to a work with a feeling of obligation and a grateful sense of favor received, is worth far more than the same support given with a sense of conferring favor.

#### ***Where to open Medical Work.***

As a rule, hospitals and dispensaries should be located at large centers. At a large center more people are brought under the influence of the hospital and patients will come from a wider extent of territory.

Influence over the minds of people is affected by locality. The prestige gained by a name and following in a large city is no small factor in the problem and should not be ignored.

Then it is desirable that the physician should be at a point easy of access to all other members of the mission who may be dependent upon him for medical care and attendance.

As a rule, also, hospitals should be located where no other medical mission work is conducted. Most mission fields to-day are so inadequately occupied, and there are so many large centers, now destitute of this agency, where medical work could be most advantageously conducted, that it would seem unfortunate for any hospital or dispensary to lose the least of its useful-

ness or its influence by a division with another hospital of the incidental benefits of its work.

It is very true that one hospital cannot do all the work of a large city and its patronizing territory. Neither can all the missionary societies do all the work of evangelizing heathen lands. We can establish only centers of influence and conduct work throughout the great mass of heathenism until there be a native church that shall continue the work and perpetuate the influences missionary societies have introduced.

#### METHODS.

In considering methods of work here again the purpose of all our efforts should be kept in mind, and it should be remembered that we are considering hospitals and dispensaries as missionary agencies.

We might be able to do a great deal of good in **Medical Work.** advancing the gospel with inferior medical work, but we should aim at nothing less than the best professional results possible under the circumstances of our position. The best work secures the best results and results affect our influence. Careless half-hearted work affects both ourselves and our patients unfavorably. How careful is the practitioner who seeks success and a pay clientele in the cities of our home land, that every feature of his practice shall further this end and enable him to do the best for his patients. We seek nothing less than the glory of God and the salvation of souls as well as the relief of suffering. How much higher is our aim, and how much more important is the issue !

In both hospitals and dispensaries we should utilize **Religious Work.** every avenue of approach to the soul, and these will vary with the people among whom we labor, differing in different countries and with the character of the individual in charge of the work.

It is possible through the dispensary to distribute a large number of tracts and portions of Scriptures. Every patient should be required to register and pay a small fee unless he be too poor to do so, and with the ticket supplied him there can be given a copy of one of the gospels or some tract that will in a brief and clear way convey the gospel message. In this way the hospitals at Nanking circulate every year a great many thousand portions of Scripture, together with tracts, Christian calendars, etc.

In the wards various opportunities will arise for presenting the-gospel without its being done too obtrusively. In China where it is the custom to adorn the walls of the houses with select portions of their literature and pious maxims, appropriate passages of Scripture can be painted on the walls of the wards, words of hope and cheer that will meet the eyes of some poor sufferer, or words of conviction that will lead some one to think of the needs of his soul.

The wards present another place where we can make good use of reading matter. Many patients find time hanging heavily on their hands and are glad to spend a part of it in reading books and tracts.

***Native Preachers.*** It is very desirable that there be in connection with each hospital a native preacher of such gifts and graces that he can spend some time each day in conversation with the patients at their bedside. He should be the right kind of a man, quiet, sympathetic and with tact and a pleasant manner so as to be able to gain the confidence of those he meets. A good native helper can do what the foreign missionary cannot do in getting in intimate acquaintance with his countrymen, but the wrong man in such a place is nothing less than a calamity to the work.

I have never made it a matter of compulsion, in the hospital under my care, for patients to attend the daily service held there. I have not thought it wise or necessary, as there has been as a rule a good part of the patients in attendance.

In the waiting room of the dispensary, while patients are waiting for the doctor to begin his work, the gospel is presented to them either in the exposition of Scripture, or a familiar talk to those assembled. All are obliged to listen, or withdraw. In China I think it is rare for anyone to object to or resent such methods, and they have been very helpful in awakening an interest and making clear the purpose of our work.

***Following up the Work.*** An important feature of hospital work is to have some way for following up the interest excited there and utilizing the goodwill gained and making the most of the access obtained to patients' hearts. It would require a larger force than is usually available in a mission to have a sufficient number of workers attached to a hospital, to visit all the villages and homes of these patients and water the seed sown and care for the ripening grain. Yet this is most desirable, and it has been my observation that at this point our work is liable to be most weak.

Many hospital patients are from the country districts. They are a quiet, well disposed class of stable character, and, as a rule, frugal and thrifty. These are more accessible to gospel influences than are the dwellers in the city, and make excellent Christians. They live so far removed from the centers of work where the hospital is located that they cannot attend services and come under the influences of the means of grace. The means of grace must be taken to them. This can be done by the itinerating evangelist and should be done in harmony with a plan of co-operation whereby different sections of a field are cared for by different societies. To this end a record should be made giving the names and residences of all patients who can be classed as inquirers, the degree of interest manifested by them and any other item that may be helpful to the evangelist. These facts should then be

furnished to the missionary laboring in the district where the patient resides and the spiritual responsibility turned over to him. This plan would increase the efficiency of the hospital many-fold as an evangelizing agency, and make it helpful to all the societies working from the same center.

The question of fees, or whether our work shall be  
**Fees.** a free charity or not is, I think, a question of locality, to be determined by the resources of the people and their attitude towards us and our work. In our desire to reach a condition of self-support we should be careful not to give ground for the suspicion that our benevolence is not disinterested; and on the other hand, it is well that patients, when it is possible for them to do so, should pay something for the medicine and treatment which they receive. A person too poor to pay a fee for registering, can easily be recognized and passed on as a free patient. But most of the common people can pay something and do so willingly, provided the fee comes within their idea of value received.

Relatively high fees should be charged for visits to the homes of the wealthy. It has been my custom to send to such families, when I have been called, a neatly printed folder, setting forth the character of our work and stating my fee, making it plain that in paying this fee they add to our resources in helping the poor. I think that very few hospitals or dispensaries in this country are entirely self-supporting, and the question very naturally arises whether under the present state of society it is desirable that they should be; the same may be said of hospitals and dispensaries on foreign mission territory.

There is another matter relating to methods which I  
**Regularity.** consider very important, and that is regularity. It is a good thing for the work as well as for the patients that there be no failures in having the dispensary open every day and the physician there promptly every time. Such a course will increase the number of patients, and it is due to the suffering poor who come to us for treatment that they be not disappointed. The trouble and expense of coming is no inconsiderable matter to one whose physical and financial resources are at so low an ebb as to require the careful husbanding of every particle of strength and means. I once heard a prominent surgeon in New York remark that he had built up the largest surgical clinic in this country and that he had done so by always being there at the hour appointed.

#### GENERAL CONSIDERATIONS.

What classes we shall aim to reach is a question that  
**Classes to reach.** sometimes arises. I think that most people here at home will say the upper classes by all means, as these people are most influential; their success in life indicates greater strength of character,

and in this class are found the leaders in thought, government and all public enterprises, and they are the ones who have the means to make the work self-supporting and continuous.

Others will say that the church has always had its best growth among the poor ; to them the gospel has been preached with the greatest strength, and the church's strength has not come through capturing the leaders of thought in the world, but in giving to the world leaders raised up from the lowly walks of life.

Medical work has a great advantage in being able to reach both classes, and while it is true that the larger part of our patronage comes from the humbler ranks and that the church is largely recruited from the same classes, we cannot neglect the wealthy who in other lands in every age have furnished to the church notable examples of piety, influence and love to fellow-men. We go to all classes alike with love and sympathy and help, and as missionaries and physicians are able to please all, without partiality to any, and in word, deed and life commend the gospel of our Lord Jesus Christ.

Some have assumed that medical work is valuable

**Continuance.** only for the opening of a mission station and that its purpose is served when prejudice is broken down, friends gained and a church established. They claim that when the point is reached where there is no difficulty for the evangelist to get a hearing, medical work should be withdrawn.

From this view I think that all those who are well informed will dissent. It is our hope and expectation that the time will come when the home church will not be called upon to conduct hospitals and dispensaries and schools, or build churches on mission ground, but that will be when mission fields are fully evangelized. As long as hospitals and dispensaries form an efficient agency in preaching the gospel, and are crowded with people ignorant of the gospel and ready to hear it, missionary societies cannot afford to lose this strong arm of help in its operations.

Our opinion is often asked in regard to the under-  
**Clergymen doing** taking of medical work by clergymen. It is claimed  
**Medical Work.** that they can dispense simple remedies and do a great deal of good thereby. Replying to the inquiry in a general way I would disapprove of such a course. It is to be understood, however, that I do think every missionary should have enough knowledge of physiology, disease and simple remedies to afford ordinary care for himself and family when located at an isolated station, far from any medical practitioner, and that he should do as much for his helpers and natives connected with him. But this is far different from attempting to treat supposed simple troubles regularly. No physician is too well prepared and equipped for such work. Without proper training and experience one is not



always able to determine what are simple troubles. By a wrong diagnosis and treatment the patient may be injured and the goodwill of the people towards the mission be entirely lost.

Where there is so much prejudice that the minister cannot secure a hearing without medical work, a physician should be there to do it, and if medical work is not needed to secure a hearing, the clergyman will have all the work his energies can compass and should not divide his powers in a questionable undertaking.

#### EQUIPMENT.

The remarks made in regard to the kind of work we  
**Appliances.** ought to do, apply also to the equipment of a hospital and dispensary. We should aim to do the best work, and the appliances needed for such work should not be wanting in a mission hospital. The physician in charge may be called upon to meet any emergency, and he should not fail through lack of proper appliances. Anything that increases the usefulness and influence of a medical missionary is a good investment for a society that incurs the expense of sending him to the field and maintaining him there.

**Native Assistants.** It is needless to say that one or two physicians are unable alone to do the work that comes every day to a mission hospital. We must have native assistants. The question of their training has been discussed in another paper presented to this conference. Thus far in the history of missions few medical helpers have been trained outside of mission hospitals, and in China their education is still an important and onerous part of the medical missionaries' duties. These assistants should be Christians and alive to the spirit and purpose of mission work. When imbued with the proper spirit and possessed of the high degree of intelligence that medical work is able to attract they are invaluable to the work and in fact are indispensable to the conduct of hospitals and dispensaries.

I consider it very desirable that there shall be at least  
**Trained Nurses.** one trained nurse from the home land in connection with every mission hospital. Where there are wards for both men and women, a nurse is indispensable. Her services are required in training native women as helpers in the hospital. In fact, she must do the work of a deaconess also, as she has a field unequalled for religious work. I think there is no more valuable worker to be found on the mission field than an earnest, efficient trained nurse. Then her assistance at operations and in preparation therefor and her services in looking after the many things about a hospital requiring a woman's skill and intuition are invaluable.

All other questions relating to hospitals and dispensaries are subordinate to the one relating to the physician himself, for on his character and spirit largely depends the success or failure of the work. It is he more than any other factor that determines the efficiency of a hospital or dispensary.

He should learn the language of those among whom he labors and be able to enter into their thoughts and sympathies. He should be a man of good judgment in dealing with men and problems of mission life. He should be an influence that makes for peace, as he, more than any other man in his little missionary community, comes into intimate relations with his fellow-workers.

He should have a thorough professional training and as much hospital experience as possible before going to the field, for there he cannot turn over a patient to some specialist or call in a consultant to help him in his extremity. He must have the stamina and ability to meet any emergency and do at least fairly well with his cases. I do not say the *best*, for in this age of special development no one man is able to afford his patient, in all cases, the best results the medical profession is able to give.

Medical missions should have in their service the very best men; for not only does the field call for the highest skill, but medical missionaries are introducing the medical profession and its system of education into the large cities and capitals of the Orient.

And finally he should undertake mission work with a definite sense of obligation and consecration and a clear conception of duty and privilege, so that he will give his life and energies in full surrender to the Lord for joyful service, and show forth in his daily walk among his patients the mind and spirit of his Master, who was the healer of Gennesaret and who went about doing good.

#### CONCLUSION.

"And the eye cannot say unto the hand, I have no need of thee, nor again the head to the feet, I have no need of you." So hospitals and dispensaries go hand in hand with the church in its divine mission of lifting up the fallen, comforting the dying and hastening the time when the nations of this earth shall become the nations of our Lord and his Christ.

The physician, whether in Christian lands or on the mission field, is one who serves. He gives of his time, his energies, his sympathies, of his very life that others may be helped into better and happier lives. Happy the man whom the church puts into a position where he can make the most of his profession, his Christian experience and the opportunities of his life for the uplifting of mankind, for man's material, physical and spiritual advancement.

A BENIGN TUMOUR, SIMULATING MALIGNANT  
GROWTH—OPERATION.

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By G. W. GUINNESS, M.D., B.C.

At the beginning of October, 1900, a gentlemanly man of good physique came to the dispensary of the C. I. M. hospital, Chefoo, to consult with the doctor about his arm. He said he had a large sore that had been there for a long time, and that he wished to have it treated.

The history of the case is briefly as follows :—

The patient, Uang Tiu-t'ang, thirty-two years of age, is a well-built man somewhat anemic. He has been engaged in the sale of opium, but does not himself smoke. His home is twenty-eight *li* from Chefoo. He came to the hospital with a tumour in the bicipital region of the left arm, which had been growing for twenty-two years. (Since he was ten years of age.)

The growth began as a small nodule about the size of a pea, but gradually enlarged until it attained its present dimensions.

The circumference of the arm in region of the tumour is  $15\frac{1}{2}$  inches. The growth itself, which looks like a fungating ulcer, measures nine and a half inches from side to side and ten inches from above downwards. The patient says that it grew for nine years without involving the skin; then he had it treated by native doctors, who put on native whiskey (*shiao-chiu*), lime and buckwheat flour made into a paste, which caused superficial inflammation and breaking down of the skin; after this the doctor gave up the case, confessing he was helpless, could not treat it further. Since that time the patient has been applying chicken feathers to absorb the oozing of blood and serum, and when he showed us his arm, there was a sodden layer of feathers covering the growth and a sanious fluid exuding from it.

Apart from the anemia, his general condition was good, and he has full use of his arm, being incommoded only by the size of the tumour and the constant oozing from it.

On examination there was revealed a large fungating ulcer, whose floor was elevated above the level of the surrounding skin. The edges were hard, red-raised and everted or rolled out; in their appearance suggesting malignant growth. There was no perceptible odour, no infiltration of surrounding structures; the growth was freely moveable, except when the biceps muscle was brought strongly into action, when a decided lessening of mobility was observed.

The axillary glands were not involved, and there were no growths elsewhere; in fact no evidence of systemic infection. Hence though the outward

appearance was suggestive of sarcoma, the diagnosis made was that the tumour was a simple one, probably a lipoma.

The patient was advised to have it removed. The accompanying photograph gives a general idea of the condition before operation. The operation was performed by the writer and Dr. Keller on the 10th October, 1900, Dr. Neal kindly administering the anæsthetic.

The man took ether well. It was administered by the open methods, and the patient was fully anæsthetized in about ten minutes. Soon after making the skin incisions it was evident that an encapsuled tumour had to be dealt with. A number of vessels ran into it, but on severing these the growth readily separated from the surrounding structures. The enucleation was proceeded with until nearly the whole tumour was free, when it was found that at its base it was firmly attached to the tendon of the long head of the biceps.

From this it was dissected away, with the exception of a very small portion which could not be separated without injury to the tendon. This was finally cleaned off as far as possible; the bleeding points were secured and a few stitches put in above and below. The large raw surface left was dressed antiseptically.

The man rallied well. There was a rise of temperature after the operation, but it soon fell to normal, and the patient has felt perfectly well since. The use of the arm is unimpaired.

The tumour weighed about two pounds. It was found on section to be a lipoma which had been irritated on the surface by the applications of the Chinese physician.

The wound is covered with healthy granulations, and the skin-grafting recently performed proves a success; the patient will soon be able to leave with a useful arm.

*China Inland Mission, Chefoo.*

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## THE IMPORTANCE OF THE FETAL HEART SOUNDS.

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By MISS E. M. GOUGH, M.D.

In the anxiety which naturally predominates in the mind of the medical attendant for the safety of the *mother* during labour, there is, I think, a tendency to overlook certain precautions needed to ensure the safety of the *child*, and I am struck with the fact that one rarely hears anything in notes of cases about the condition of the *fœtal heart sounds*.

It is well in every case where the doctor is called in early, before the membranes have ruptured, to listen to and count the fœtal heart-beats, so as

to be able to gauge more accurately the importance of heart-counts afterwards. Up to the time when the membranes rupture, that is to say, while the uterine pressure is conducted through a sufficiency of liquor amnii, there is likely to be little danger to the fœtus, but after the membranes have ruptured we ought carefully to watch the power of endurance of the child as indicated by the *rate and quality* of the heart-sounds. My own rule in cases where the membranes rupture early, and where owing to this the dilatation of the os is usually slow, to listen every hour where the fœtus seems strong, and every half hour or oftener where there are signs of exhaustion, or where, from the beginning, the heart rate has been high and the sounds feeble. That any *sudden* quickening or slowing of the fœtal heart rate should lead to very carefully watching, and often, where it remains permanent, indicates the necessity for prompt instrumental interference, is evidenced by the asphyxiated condition of children delivered by forceps under such circumstances.

One other most important danger-signal is the *Furie souffle*.

Out of over 1,000 cases I have only heard this three times. A soft, blowing sound, synchronous with the fœtal pulse, heard sometimes where the heart-rate is neither very much increased nor diminished, often difficult to hear because of the loud "uterine souffle" so often heard, and always indicating pressure on the cord and danger to the child.

In one of these three cases the souffle was *not constant*, labour was nearing natural termination, and it was not thought necessary to interfere. The child at birth was living, but very blue.

In the other two cases, the membranes had ruptured early, the souffle was constant and the heart-sounds quick and feeble. Forceps were applied before dilatation of the os was quite complete; the necessity for the measures adopted being proved by the collapsed condition of the children on delivery; artificial respiration being required for some time in both cases.

Both children lived, but I think it is fair to suppose that they would not have done so had any more lengthened strain been put upon them. There was nothing in the condition of either of the mothers to call for operative assistance. Might not some cases of bitterly disappointed mothers who have suffered, as it were, in vain, be prevented by our running the risk of being thought fussy and insisting on frequent listening to the little indicator which is there to guide us if we will but make use of it.

*Wesleyan Mission, Hankow.*

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## TWO CASES OF TUMOR.

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By J. E. WILLIAMS, M.R.C.S.

My colleague, Dr. Cox, has requested me to send to the JOURNAL particulars of the two following operations which I assisted him to perform during the early part of the present year, 1900:—

The first case, that of Mr. Chen, a farmer from north of the Yangtze, came to us in the month of November last year, asking advice for a large parotid tumor on the left side of his face and neck, which had been growing for nine or ten years. He was advised to have it cut out and was further advised to return home and consult with his family and come again as soon as he could possibly arrange his home affairs. At the same time the dangers of the operation were pointed out to him, we declining all responsibility as to the issue. He returned to the hospital in February of this year, 1900. The tumor showed marked increase in size, diminished mobility, was more vascular, and altogether more malignant in appearance than before. We then learned that he had paid two or three visits in past years to the hospital for advice and treatment, but could not bring himself to the point of deciding to have it removed. Dr. Cox removed the tumor on February 15th, after more than an hour's tedious and careful dissection, during which we found extensive outgrowths involving the sheath of the sterno-mastoid muscle at its attachment to the mastoid process, both on the upper and under surfaces, also running up behind the auricle and imbedded in the fossa behind the ear. The tumor proved to be a fibro-chondroma. The patient rallied fairly well but slowly; there being some facial paralysis, as was unavoidable, on the same side, as well as restricted movements of the lower jaw. The patient left us with the wound almost healed over. He could not or would not be persuaded to stay longer than the second week of April, urging the needs of his farm, and we have heard nothing of him since.

During his stay in the hospital I had several conversations with him on the subject of regeneration, of original sin and of God's love as manifested in the redemptive work of our Lord Jesus Christ, to all of which he gave a respectful hearing, but never manifested any deep interest or desire to know more of these truths. I subsequently gathered from our students that he was well satisfied with the teachings of Buddhism, and he considered the merits of vegetarianism to be on a par with those of Christianity.

The second case was that of a farmer, named Ting, thirty years of age, from a market town near Yangchow who, like Mr. Chen, paid one or two visits to the hospital before he finally consented to yield to the unceasing

importunity of his increasing burden and seek surgical relief. He came into the hospital about May 31st, and was operated upon on the 2nd of June. His trouble is well illustrated in the accompanying photograph. The growth was of ten years' duration, of a considerable size, but well defined and quite free from attachment to the muscular structures beneath, apparently confined to the skin and subjacent areolar tissue, not involving the scrotum, nor extending beyond the upper limits of the left thigh, but apparently situated over "Scarpa's Triangle." The pedicle was well defined, measuring thirty inches in circumference, and therefore extended on the inner side as well as on the front of the thigh much beyond the limits of the triangle. It must have been a very great inconvenience to the man, and was very conspicuous on his person beneath his garments as he moved about. The marvel to us was how he endured this impediment to all active labor for so long. The patient had, as was natural, a somewhat worn and distressed expression, and his physical condition was manifestly lowered by the steady growth of the tumor with its attendant inconveniences.

Dr. Cox regarded the case as one of modified elephantiasis, and the subsequent naked-eye appearances on section of the tumor confirmed this diagnosis. On the day of operation we slung the tumor up by bandage, pulley and weight for a quarter of an hour as he lay on the table, with the double object of draining the tumor of blood and of discovering the best means of manipulating the tumor on its unwieldy proportions when operating. We soon found, however, that the drawbacks were greater than the advantages, for the serum (of which there must have been a large quantity) percolated down into the thigh so quickly as, if continued, to seriously obscure the field of operation and interfere with the limits for incision. We accordingly lowered it again until time for the operation, which resolved itself into simple dissection of the skin and areolar tissue from above and around "Scarpa's Triangle." The femoral artery was exposed in the center of the dissected surface, and also the "spermatic cord" at the upper and inner angle, but only to a small extent. A large quantity of serous fluid oozed away during the process. We saved sufficient healthy integument from the base of the pedicle to warrant us in suturing the wound, but it proved to be too tight and had to be loosened on the third or fourth day after the operation. The wound healed with suppuration fairly quickly.

The tumor weighed thirty pounds, and consisted of hypertrophied areolar tissue, with an enormously hypertrophied lymphatic gland embedded in the center. The patient made a good recovery.

He was in indifferent circumstances; one of that large class of patients who can afford to pay for their food only, but who, to my mind, make the best patients and are the most open to the appeals of Christian doctrine.

*China Inland Mission, Chinkiang.*

## THE PATHOLOGY OF DIABETES MELLITUS.

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By RICHARD SMYTH, M.D.

Diabetes, which may be defined as a disturbance of nutrition characterised by polyuria and persistent glycosuria, is most frequently met with in India, Ceylon and Southern Italy. It forms only about one per cent of hospital cases in England. In this part of China it is decidedly rare; but having lately found some well-marked cases of the disease among the natives, it has occurred to me that a discussion of some points connected with its pathology might prove interesting to my colleagues in this country.

Such a discussion must necessarily involve some preliminary clinical and physiological considerations. Clinically, as is well known, diabetes is met with in two distinct forms, which, with reference to intensity of symptoms, may be termed the mild and the severe; or, with reference to prognosis, the curable and the incurable. Diabetics of the former group—usually dyspeptic and gouty subjects past middle age—may be well nourished and even corpulent with florid complexion and moist skin. They suffer in moderate degree from diuresis, anorexia, thirst, debility and wasting; but the glycosuria will cease and normal health will be restored on the adoption of the strict and appropriate dietary.

Diabetics of the second group present a striking contrast. They suffer from ravenous hunger, intense thirst and extreme polyuria. Their skin is harsh and dry, the tongue glazed, the face pale with reddish patches on the cheeks and forehead. They emaciate rapidly and suffer from great debility, mental and physical. The loss of sugar persists, in spite of the most rigid exclusion of carbohydrates from the food, and sooner or later the inevitable fatal issue supervenes.

In both classes of patients the glycosuria is increased by taking, and diminished by abstaining from starchy and saccharine food, a fact which leads us to reconsider the physiology of glycogenesis.

Only two views need be mentioned, viz., those of Bernard and Seegen. Pavy's negative hypothesis is now no longer tenable.

Claud Bernard long ago established the fact that in health the liver converts all the alimentary glucose reaching it in the blood of the portal vein, into the non-diffusible, amyloid substance "glycogen," and then, by re-converting this glycogen into sugar, provides a fixed and constant supply of sugar to the general circulation. Moreover, he maintained that the sugar



thus supplied is consumed in the capillaries in the processes of nutrition and force production, and is ultimately eliminated in the form of carbonic acid and water.

It may be added that glycogen, which is identical in composition with starch ( $C_1 H_{10} O_5$ ), and like it readily converted into sugar by animal ferments, is normally present in the liver and muscles. All observers are agreed that glycogen is laid up in store by the liver cells; and that, though mainly formed from the carbohydrates of the food, it is formed from nitrogenous matter also.

Recently another theory of sugar supply has been formulated by Seegen. While agreeing with Bernard that in health the liver is constantly forming sugar and pouring it into the blood through the hepatic veins, also that starchy and saccharine foods are transformed into liver glycogen, he maintains that the *source* of the sugar supply is not this glycogen, but the peptones absorbed from the alimentary canal, out of which sugar is formed by the hepatic cells.

However we may dissent from Seegen's view that such is the *normal* sugar-forming function of the liver, we must admit that in "severe" diabetes (when glycosuria continues, though the patient is restricted to a diet of lean meat,) this source of sugar supply, suggested by Seegen, is the only one available. But even then glycogen may first be formed from the nitrogenous matter and subsequently be transformed into the sugar found in the hepatic veins.

We are now in a position to discuss some questions with reference to the pathogenesis of diabetes. It is a well known fact that healthy blood contains sugar to the extent of .05 to .25 per cent, and that in diabetic patients the amount exceeds three parts in a thousand. Sugar appears in the urine because of this excess of sugar in the blood. The excessive quantity of sugar may obviously be attributed either to (a) excessive formation in the system, or (b) diminished destruction in the capillaries, or to (a) and (b) combined.

Pathologists are not agreed as to which of these proximate causes should be assigned to the graver form of diabetes; but all authorities refer "mild" diabetes to the former (a), as a natural inference from the clinical history would lead us to expect. Seegen maintains that the milder form of the disease is due to an inhibition of the functional activity of the liver cells devoted to the formation of glycogen, and that the severe form is due to an increase of the destructive power of the liver over proteids (which serves to explain the ravenous appetite and extreme emaciation of the sufferers). Moreover, he asserts, that in severe diabetes the whole organism, or a considerable part of its elements, has lost the faculty of destroying the sugar of the blood.

Burney Yeo suggests that mild diabetes is due to depressed hepatic function, in consequence of which some of the sugar from the portal vein fails to be converted into glycogen, and thus passes directly into the circulation. He points out that other evidences of depressed liver function are usually seen in such cases, namely, obesity and excessive excretion of uric acid. Severe diabetes, he considers, is due to a morbid ferment in the system (probably a product of faulty digestion) which causes an abnormally rapid conversion of glycogen into sugar wherever it may be formed, so that in these cases even nitrogenous matters may be converted into sugar; and, in addition to this, the normal function of sugar destruction in the blood is arrested or disturbed.

Roberts wrote in 1885: "It is impossible in the present state of science to frame a clear and comprehensive theory of diabetes. It seems highly probable that it consists proximately in some disturbance of the destination and function of the amyloid substance of the liver. But this disturbance may be due originally to diseases far away from the liver itself." Let us now see to what extent morbid anatomy and experimental pathology throw light on these original or ultimate causes.

Post mortem examination shows lesions in various parts of the body, but the lesions are provokingly inconstant. The *liver* is found sometimes enlarged, sometimes contracted and sometimes normal in size. It may, or may not, show signs of engorgement, cirrhosis or fatty infiltration. The *kidneys* may be congested, sclerotic or fatty. The *brain* may present a gross lesion, e.g., tumour or hæmorrhage in the neighbourhood of the fourth ventricle. Spots of softening in various parts of the nervous system are not uncommon. But a large number of consecutive necropsies may be made without finding any lesion in the nervous system. Lately attention has been especially directed to the *pancreas*. Williamson found that in twenty-four consecutive cases the gland was normal in only eight, in four he found it very extensively diseased and in the remainder cirrhotic, fatty or atrophied patches were detected. Other observers have found equally striking pathological changes.

These facts lead us to consider the results of vivisection, and especially those obtained by Minkowski from the famous series of experiments he made ten years ago. It was found that (1) permanent glycosuria occurs in dogs, cats, pigs and rabbits after complete ligature of the lymph and blood vessels of the pancreas or after the complete extirpation of the gland. (2). Neither ligature of the pancreatic duct, nor *partial* excision of the gland, even to the extent of  $\frac{2}{3}$ th of its substance is followed by glycosuria. Again (3) when an excised piece of the pancreas was transplanted and grafted under the skin of the abdominal wall, it was found that, provided the graft did not necrose, glycosuria fails to occur even when the whole of the remaining intra-abdominal portion of the gland is removed; but if the graft necrose, or if it

be subsequently removed, then glycosuria occurs, and with it the characteristic symptoms of severe diabetes.

Lépine infers from the above that in health the pancreas elaborates and pours into the circulation, through the lymph stream, a glycolytic ferment which causes the destruction of sugar in the blood; and that the loss of this ferment, owing to disease of the pancreas, would necessarily lead to glycosuria. Moreover, as this loss would probably coincide with the arrest of the fat-digesting functions of the pancreas, the disease would be accompanied by serious and progressive wasting. We may add that pancreatic diabetes is now a recognized entity. It occurs chiefly in youths under thirty, and is rapidly fatal; death occurring within a month.

In many cases of severe diabetes, however, the pancreas is absolutely free from disease. The above theory fails in such cases to account for defective sugar destruction. Some agent antagonistic to the pancreatic ferment must be present. This, Leo of Berlin, maintains is a certain poison in the blood which inhabits the oxidation of sugar. He describes it as "a substance which is soluble in alcohol and in water, is not precipitated by oxalic acid, and is not destroyed by the temperature of boiling water."

The limits of this paper only permit a brief reference to the connection between diabetes and lesions of the nervous system. The contractile tissues of the hepatic vessels are under the control of a distinct nerve-arrangement, with a local centre (which is probably the coeliac ganglion) and upward prolongations by the sympathetic and the spinal cord into the cerebral centres. The separate threads of this communication are, in the lower part of their course, placed widely apart, but they approach in the cord; and in the floor of the fourth ventricle they are collected in a close bundle before their final dispersion into the cerebral hemispheres. Irritation or puncture of various parts of this nerve chain disturbs the innervation of the liver vessels, producing hyperæmia of the organ, so that the blood is hurried through the vessels at a rate inconsistent with the complete transformation of the alimentary glucose into glycogen, hence the excess of sugar in the blood and the consequent glycosuria. Claud Bernard's classical experiment is thus explained.

Schiff by thrusting a needle through the spinal cord opposite the second dorsal vertebra, produced permanent glycosuria in rats. The animals lived for twenty days, rapidly emaciated, and were diabetic to the end.

In conclusion, it may be remarked that the study of diabetes in brute animals and man results in the conviction that it is not a distinct pathological entity but a group of symptoms produced by various morbid conditions of the pancreas, the liver and the nervous system.

## AMERICAN EPISCOPAL CHURCH MISSION.

## MEDICAL MISSION WORK AT SHANGHAI.

Just thirty-two years ago the Ven. Archdeacon Thomson and his wife started a small dispensary for Chinese patients. The Mission had no doctor, and Dr. Jamieson, an English doctor who practiced among the foreign residents of Shanghai, kindly supervised the native assistant in charge of the work and helped him out with difficult cases. The work grew, and finally Dr. Boone was sent out in 1880 to take charge, and also to start a medical school.

We then had a fairly good house which could hold twelve beds. We were short of funds, no drugs, few instruments and none of the many appliances needed for the work of a hospital.

A short time after the doctor began his work a poor man, who was very ill indeed, was admitted for treatment. The man was ill for some time, and he finally recovered. This poor man had wealthy relations. One of them, a Mr. Lee Chu-bing, was worth some millions. Mr. Lee sent and asked the doctor to call at his house. Dr. Boone got the Rev. Mr. Woo to go with him. After the usual ceremonies Mr. Lee said: "When my cousin was ill I visited the hospital, and I was struck with the order and cleanliness and also the fact that the poorest received the same kind care as the rich. I think that the hospital is a worthy institution, and I wish to help it." Dr. Boone asked Mr. Lee to buy a small city block with ten houses on it, so that there could be a suitable hospital. Mr. Lee bought the lot; he then called and said that these houses would not make a good hospital, that he wished to pull them down and that he and his friends would pay for a new and a suitable building. Dr. Boone prepared the plans, and a good modern hospital was put up on the site of the former houses. Since that time the Chinese officials and merchants and the foreign merchants have supported the work by yearly subscriptions, and we have not needed any money from the United States. We now have a fine stock of medical and surgical appliances, surgical instruments and apparatus, microscopes, etc., and a store room well stocked with drugs and surgical dressings of the best quality. The work grew slowly until we needed more room, and in 1888 we had saved up enough money to buy the corner lots in front of the hospital and to put up a building for the women and children. This work was then put under the care of Dr. Marie Haslep, who carried it on for some years. When Dr. Haslep retired, Dr. Mary Jamieson Gates took it up, and it is now quite a large work. Last year there were treated in the

	Internal.	External.	Total.
Wards for men	657	21,087	21,744
Female wards	249	9,831	10,080
	<hr/> 906	<hr/> 30,918	<hr/> 31,824

Of the above number 10,718 were new cases seen for the first time. 180 visits were made to patients in their homes.

From small beginnings a large work has grown up. The numbers given here only represent the patients. Twice as many persons, friends and relatives of these patients come to the hospital as visitors, and to all these people the gospel is preached. Thousands who come sick and suffering go away cured of their bodily ills, and they also carry away with them some knowledge of the saving truths of the gospel. It also bears fruit in many ways. As Dr. Gates says: "We believe that the sphere of a medical mission hospital lies not only in relieving disease but that its influence extends into other departments of life; that apart from a mere remedial agent the ultimate bearing which it, in common with all similar institutions, must have upon the women of this land, must not be undervalued." "In teaching these women anything which shall bear on the comfort or health of their homes, in giving them even the simplest rules of hygiene, in giving them practical illustrations of the value of personal cleanliness, in mitigating heathen superstition and prejudice, no less than in relieving suffering, we believe we are helping this people along philanthropic, moral, yes, political lines. How slow the task, how full of discouraging features, none but a physician engaged in the work can know; but the course is no less true, and only those who have been privileged to see the dark side, can really appreciate the bright side which lies in the relief given to suffering bodies, the sympathy afforded to many a sad and darkened life and the remembrance that in doing for "one of the least of these" we are obeying the commands of the Great Physician Himself."

The Ven. Archdeacon Thomson in his "Report of the Chaplain," says: "The Rev. Mr. Le was called to take part of the hospital duties in connection with Mr. Wong. The work in a hospital might be spoken of as unvaried and dull in many respects, yet with constant change. The general outlines are much the same each day, only that every new case has some new interest, either in the exhibition of disease in some changed aspect or in the personality of the patient.

There was an instance of this in the person of an elderly Cantonese gentleman, who was a peculiarly interesting person. His case was a very difficult one, requiring many operations of a more or less serious nature. There was much pain and many weary days, and even months of suffering. He had one of those kind and gentle faces one sometimes sees. He was so patient under all the trial. He would smile, and seem so pleased to see us. It was

difficult to communicate freely with him, as our dialects were so different. Still with a little English we got on quite well. We felt of him as was said to another, "Thou art not far from the kingdom of heaven." He was finally restored to a fair measure of health and left for his home. He read quite well, and took, I believe, quite a number of our books with him. We can hope he will come to accept the salvation which is so freely offered him in Christ.

It is so with much of our hospital work. It is a school where they learn much, but it must remain for them to put what they learn in practice after they leave, and for the Holy Spirit to work upon their hearts with the knowledge which they have acquired. One of our attendants at the hospital services has been baptized, and another of the old patients is preparing for it. In far the greater number of cases the patients are willing to listen to religious instruction. Many are much impressed by the truths they hear. They also take much interest in the special services held for them in the wards twice a week. When they can read they take part in them.

The work in both of the institutions (the minute details of which cannot be given) is one of great interest and one in which it is a privilege to be engaged. As to the surgical and medical work done in both institutions one cannot speak too highly in praise of the comfort and help to poor suffering humanity; to see these poor patients come in with hands torn or crushed, legs broken, others with all kinds of wounds and with dreadful diseases,—all so tenderly cared for. A very large majority of these are restored to health. These facts may well cause everyone who can do so to be glad to aid in carrying forward this work. I can certainly commend the work from its humanitarian side, as well as assure all of the great opportunity there is for imparting religious truth."

Some time ago a leading missionary in an English mission said to me: "One of our missionaries was visiting a city at the other end of this province. As he was the first foreigner seen there he received the hospitalities of the mob in the shape of cabbage stalks, faded eggs and brick bats. As he was fleeing before the crowd a well-dressed native gentleman called to him to enter his house; the main gate was closed and bolted, and the guest was told that the mob would disperse, as they had no serious ill-will towards him. It was only their little way with the stranger. After partaking of light refreshments, the host said that he would like to call in some of his friends if the guest would tell them of the kingdom of heaven. Soon a number of respectable men came in; they listened attentively to an address, and then asked many questions about the Christian religion. The missionary asked his host what had induced him to desire a knowledge of the gospel. The reply was, "Some twelve years ago I went to Shanghai, was taken very ill at an inn, and when my money was gone, as I was a stranger, the innkeeper was going to

put me out upon the street to die, when some one said, "Send him to the hospital; they will care for him." He was taken and kindly treated and cured of his disease. He was astonished to find that there were any people in the world (especially strangers) who would care for persons who had no claim upon them and no money to repay for the outlay. He then learned that our religion taught the love of our neighbor, and that everyone was our neighbor. He received some religious instruction, and he had longed to learn more of this strange religion. The missionary stayed some time, and before he left he baptized this man and some of his friends, and since then the work has grown from this little centre. This is only one of a number of cases where the blessed work of healing the sick has helped to make a way for the gospel of salvation.

#### MEDICAL SCHOOL WORK.

In the year 1880 a few graduates of St. John's College began the study of medicine under Dr. Boone. They studied translations of foreign medical works, and they assisted at the hospital clinics. The doctor was single-handed, and he felt the need of having several workers to form a proper medical school. Five years ago the bishop and Rev. Dr. Pott, the President of St. John's College, conferred with the doctor, and (as the graduates of St. John's had a good English education) it was decided to form new classes and to give the medical studies in the English language. For two years the students live at St. John's College, where Professor Cooper teaches them chemistry and physics and *materia medica*, and where the well-equipped laboratories of the College can be utilized for experimental work. Dr. Lincoln, the professor of anatomy and physiology, gives instruction in those branches. After two years of study the students pass their examinations, and they then come to St. Luke's Hospital, where they reside as clinical clerks and dressers. They then study the practice of medicine and obstetrics under Dr. Lincoln; the diseases of children and diseases of the skin under Dr. Glenton, who has succeeded Dr. Mary J. Gates as professor of the above studies. Surgery and the study of diseases of the eye are taught by Dr. Boone, the dean of the faculty. The large number of patients treated in the wards and at the out-patient clinics, afford plenty of material for clerical instruction. After four years of study the students come up for their final examination. In order that this shall be as public as possible, some of the foreign doctors residing and practicing among the European community of Shanghai, and some of the doctors on the American men-of-war in port, are asked to assist at the examinations and to put the questions to the graduating class. The students are examined orally, by a series of written questions requiring answers in writing, and also by the bedsides of the patients, where they are required to examine and diagnose cases and to prescribe for the patients. A class of

four graduated last February. These students gained a high percentage of marks. The examiners, who were in no way connected with the school, expressed themselves as satisfied with their proficiency in their studies. One of the examiners, an English doctor, said that they made a better average at their examinations than the average young English students did in England. These students were allowed during their senior year to have the charge of some cases and to perform some minor operations. One student was very successful in restoring (by skin grafting) the entire scalp of a boy which had been torn off by machinery.

When these students graduate (they are all Christian men) some of them are employed in our hospitals as resident house physicians and surgeons here in Shanghai, at Wuchang and where they are needed. Some of the graduates set up in practice for themselves; one is doing well in the native city of Shanghai, one at Pootung, one at Kia-ding, one was at Nanking for a time. Some, tired of the work, get into business. These young Christian doctors have the power to do much good among their fellow-countrymen in dispelling the ignorant prejudices of the superstitious natives. We have four students at St. John's, who expect to move into St. Luke's Hospital and be the senior class this winter. Miss Wong, who studied under Dr. Haslep, is the very able and efficient house physician of St. Luke's Hospital for the women and children, and she renders valuable services to that institution. My house surgeon, Mr. Wo Qun-zie, has shown considerable skill and dexterity in operating, and several of the former graduates have become good surgeons.

#### NURSES.

We have a small training-school for nurses, started by the liberal help of Mr. Lemuel Coffin of Philadelphia, and the church of the Holy Trinity of that city. These nurses learn their duties in the wards and in the out-patient department, and they are a great help to our work.

#### VISITING COUNTRY STATIONS.

There are a number of mission stations in the district around Shanghai where the mission has established churches and schools for boys and girls. From time to time, at my request, the clergyman in charge of this branch of the work, sends out notices stating that the doctor will visit certain stations at a stated time. We start on a house-boat, carrying a liberal supply of medicines put up ready for dispensing. The house-boat has a small cabin with a dining table and a couple of chairs, also two beds to sleep on at night. The crew consists of two men, a woman and one or two half grown boys. When the wind is fair we sail; at other times the boat is propelled by a large oar or skull worked by three persons. Often a tow rope is put on shore, and three people



walk along the path towing the boat. When we arrive at a town we find numbers of sick folk waiting for us in the chapel, where they have been gathered by the native clergyman. Mrs. Boone visits the women and the schools, and she often takes photographs of groups of children and of older persons. Some are very anxious to be photographed, others fear that they will die within the year if their pictures are taken. Nothing will induce them to tamper with the foreign magic. After some hours spent in caring for the sick we return to the boat, take our meals and go to rest. When the next station is reached we attend to the sick folk and then start for the next station; the trip lasts five or six days, and from 450 to 750 sick persons are examined and prescribed for. Many people are in need of regular treatment or of a surgical operation. These sufferers are advised to go to Shanghai and stay in the hospital.

The country people are always very friendly, and they seem to be grateful for the aid which they receive. We make many friends for the work, and as the people come from far and near for treatment an opportunity is afforded to give them some instruction in religious matters.

The country around Shanghai is part of the valley of the great Yang-tsze river; it is a low-lying alluvial of great fertility, and is the garden of China. The land produces two and even three crops a year of wheat, rye, barley, maize, beans, peas, potatoes, rice, cotton, silk and all sorts and kinds of fruits and vegetables. It also produces a large crop of malarial fever, diarrhoea, dysentery, liver diseases, beri-beri and other diseases. Indigestion, skin diseases and eye troubles are very common. The Chinese have no knowledge of surgery, and troubles requiring surgical operation go on to serious proportions from lack of skilled treatment in their earlier stages.

Although the land is low, there are so many large and small streams coursing through it that it always has the beauty of running water; every hamlet has its clusters of trees and graceful bamboo groves; the rivers are full of craft dotted with sails of many colors. Beautiful bridges with granite arches span the streams. Old temples and walled cities stand beside the water's edge. One sails through many villages and cannot but admire the varying forms of Chinese architecture; here a lovely gateway, there an ornamental wall, an ancestral hall or a temple, where the curved roof copies out the tent of nomad ancestors. The prevailing soft greys of the old walls lend a pleasing harmony to the scene. Everything is old; all the works of any magnitude, great stone bridges and sea walls, show what a former age could do. It is only the modern that is mean or cheap. The Chinese seem to be a race that culminated ages ago, and they live in the past in their literature. The literati and gentry revere the maxims of Confucius and Mencius, and they despise all things that do not come down from the hoary past.

There is, however, a new China growing up. It is the irrepressible conflict between the old and the new which has rent China to her very foundations during the past year. We have had storm and stress, trial and trouble. Our hearts have been torn with grief at the loss of our missionary friends and of native converts, who have undergone martyrdom for the sake of their faith. These have died, but not in vain. A new China is destined to spring from the old, and the day is not far distant when the Christian religion shall prevail throughout the length and breadth of the land.

H. W. BOONE, M.D.



## Medical and Surgical Progress.

### Medical.

#### HEROIN.

In the *Therapeutic Gazette* Drs. Brown and Tompkins publish an interesting account of their experiments with heroin in the Howard Hospital, Philadelphia, as an analgesic and hypnotic after gynecological operations. Their endeavor was to find a substitute for morphine, which, owing to its producing nausea and vomiting, is often unsuitable for use in these cases. From their experience of its administration in fifty cases, in thirty-four of which it was used for the relief of pain, and in sixteen as a hypnotic, they report the following results: "In all but seven cases sleep was produced and pain was relieved. The action of the drug took place in fifteen minutes from the time of administration in twenty-five cases; in twenty minutes in eighteen cases; in the other seven cases no effect was produced. The dose in thirty-four cases was one-twelfth of a grain of the hydrochlorate; in sixteen cases one-sixth grain was given. In thirty cases the duration of the action of the drug was four hours; in thirteen cases from six to eight hours, and in seven cases no appreciable effect was noted. Thirty-one administrations of the drug were given by hypodermic injection, the remaining nineteen by mouth. Vomiting was absent in all but four cases, and as these administrations were made before the patients had fully recovered from the effects of ether, it would be difficult to say which was the cause of the vomiting. Contraction of the pupils and subsequent constipation were absent in all cases. We did not find any idiosyncrasy for the drug, such as has been reported by other observers.

From the foregoing it would appear that heroin is a safe, reliable analgesic,

one which can be repeated if necessary without producing habit or doing harm in any way. At least this has been our observation and the conclusion which we have drawn. We think that such data as we have collected would at least justify the use of heroin as a hypnotic and as an analgesic."

In the *Philadelphia Medical Journal* of September 8th, Dr. Loewenthal reports his experience in the use of heroin in the treatment of whooping cough, giving the histories of ten cases in which he prescribed it in doses of 1/125 to 1/75 of a grain to children varying in age between two months and eight years. In all but two cases he noticed marked improvement in the vomiting paroxysms of coughing, and in the matter of sleeping and eating. He sums up as follows: "These histories will do to show what the virtues of heroin are, especially in the treatment of whooping-cough. It is superior to anything we have for this trouble, and I am sure that it will prove a valuable addition to our *materia medica*; and in conclusion, when you have a case of pertussis, and you desire results, use heroin."

#### QUININE IN MALARIA.

At the meeting of the British Medical Association in Ipswich last August an interesting discussion was held on the treatment of malaria by quinine. From the report in the *British Medical Journal* of September 1st, the following notes are taken:—

Prophylactic use of Quinine.—The general consensus of opinion in regard to the prophylactic action of quinine was favorable to its employment, though there were one or two dissenting voices, and in some of the experiments which were reported no benefit whatever could be attributed to its use.

Dr. Andrew Duncan reported favorable results in his own experience in India among soldiers whom he had in charge, and also gave the following note as to inquiries in other quarters:

"In the Malay war no benefit was observed, or only a very slight one. As regards the West Regions of Africa, Harvey found that the blue-jackets who took quinine had just as much fever as the men who did not. In the Ashanti wars of 1893 and 1896 it proved of no benefit.

Last year the results of an inquiry promoted by Mr. Chamberlain and Dr. Patrick Manson came to hand—133 answers were obtained, proving beyond a doubt that quinine does exert a prophylactic action. Amongst the items that came out are the following:

Of 42 persons who took it regularly 5 had no benefit, and 37 had.

Of 16 persons who took it irregularly 1 had no benefit, and 15 had.

2 recommend it for newcomers.

2 do not recommend it.

2 recommend it before the rains.

1 recommend it when feeling depressed.

1 preferred arsenic.

Of the whole number it was efficacious in 87.7 per cent.; there was no result in 12.3 per cent."

Dr. Buchanan, reporting on the results of an experiment on a large scale in the gaols of India, concludes as follows:

"In conclusion, an examination of the above reports of an experiment on a very large scale is, on the whole, strongly in favour of the prophylactic issue of the drug as a preventive of malarial fevers. If Captain Fearnside's opinion that the prophylactic issue of this drug prevents the formation of crescents be further confirmed, an important argument in favour of such issue will be established. In the nature of things control experiments are more difficult to carry out over considerable periods than might at first be thought. Another point our Indian gaol experience has certainly settled, that is, that it is possible to daily administer preparations of quinine for many months at a time without the slightest mischief result-

ing. I have for the past five years been daily administering quinine or cinchonidine to, on the average, over 1,600 prisoners for the four months of the rainy season, and I have never met with a single bad result, even severe cases of quininism are conspicuous only by their rarity. It is needless to say that in spite of Professor Koch's alarmist views on the subject of quinine and hæmoglobinuria there has not been a single case in my experience, nor have I, after inquiry, ever been able to even hear of such a case since the practice was introduced into the prisons of India."

**Mode of Administration of Quinine.**—While naturally the drug is usually administered by the mouth, there were several who advocated giving it by the rectum, especially in cases where it disagreed with the stomach or the effects on the disease were nil. Dr. Duncan said he had found that in cases where he was not able to control the disease by administering quinine by the mouth, rectal doses of twenty grains were almost invariably successful.

Dr. Fielding-Ould said:

"I would draw attention to the great value of rectal administration. In West Africa this is not frequently employed, but in some cases it is most efficacious. After an enema thirty or forty grs. may be injected with a little water or mucilage of starch, when it is rapidly absorbed, appearing in the blood in ten or twelve minutes. It is a pity, I think, further use is not made of this simple method."

In the general discussion Dr. Henderson, of Shanghai, said:

"In the European population of Shanghai the benign forms of malarial poisoning are almost solely represented. No experiments in prophylaxis by the administration of quinine can be quoted, as the cases are not sufficiently numerous. A dose of fifteen gr. of quinine given in the sweating stage after the temperature had fallen, if followed by a few smaller (five gr.) doses, is usually sufficient to put an

end to an attack. With these small doses cinchonism is rarely troublesome. I have never seen any degree of permanent deafness, nor any amblyopia follow the administration of quinine. Children suffer from cinchonism much as adults do if equivalent doses are given, but the effect may easily pass unnoticed from the child's inability to describe sensations. I think quinine decidedly a dangerous drug to give to pregnant women. In the old days I can recall two miscarriages which were produced, apparently directly from large doses of quinine. Neither of the patients—they were both multiparæ—had ever had an accident of the kind before, and in neither case was any tendency shown before the drug was given. I think the effect of quinine can be prevented, or at least lessened, by guarding it with some preparation of opium, or, better still, chlorodyne. Chlorodyne possibly owes part of its value to the Indian hemp it contains besides the morphine. The effect of Indian hemp in checking uterine hæmorrhage is, of course, well known. Hydrobromic acid or one of the bromides might be tried. If, as some believe, these drugs prevent tinnitus, supposed to be due to congestion of the labyrinth, they may conceivably exercise some influence over the circulation in the uterus. Personally I should not care to trust to them alone; they would need to be given in large doses."

Dr. Ringer, of Canton, reported the following interesting case of blindness following the use of quinine:

"A Spanish Roman Catholic priest, living amongst the Chinese up the country, near Amoy in the Fokien province, had suffered from a severe and prolonged attack of malarial fever, for which he had taken large and frequent, but indefinite, doses of quinine. On arrival in Amoy he found him suffering from dimness of sight, and on the second visit he found him to be quite blind. The fever had, however, disappeared. Ten-grain doses of potassium iodide were then administered,

and the sight gradually returned, and was eventually quite restored."

#### THE MOSQUITO IN THE ÆTIOLOGY OF MALARIAL DISEASE.

So much of what has been published of late concerning the part played by the mosquito in spreading malarial infection is founded on insufficient or even fanciful data, that it is reassuring to meet with such a well-digested presentment of our present knowledge of the subject as was made by Dr. William Sydney Thayer, of Baltimore, before the Philadelphia County Medical Society early in May and published in the June number of the Society's *Proceedings*.

Dr. Thayer thinks it may be considered as proved that mosquitoes of the genus *Anopheles* are capable of transmitting the malarial organism from person to person, and he discusses the question of whether it is through the agency of the mosquito only that the infection is acquired by man. It is the only proved agency, he declares, and, reasoning from what we know of other infectious diseases, he says, it is rather unlikely that there is more than one method of infection, and the exclusive mosquito theory explains most of the conditions associated with malarial infection; reports showing the protective efficacy of mosquito nets, even in the most malarious districts, are rapidly accumulating, and there is no serious evidence in favor of any other theory of malarial infection.

The evidence now in our possession, Dr. Thayer thinks, favors the view that the removal of all malarial persons from a given region would put an end to every source of infection. He intimates that man is a necessary intermediate host of the malarial organism, difficult as it may be at first to believe such a proposition, and he asks if we have any positive proof that uninhabited tropical regions containing mosquitoes of the genus *Anopheles* are dangerous to persons

who are free from the infection on their arrival. The author refers to statements that in tropical Africa, for example, exploring parties may spend considerable periods of time in the uninhabited interior without illness, even though the region may appear most unwholesome, but that outbreaks of malarial disease occur among them when they return to the seacoast. This hitherto inexplicable fact becomes clear, he says, if we assume that in the interior, though all the conditions are present for a spread of the disease, the mosquitoes are not infected and consequently are harmless.

There is reason to believe, Dr. Thayer thinks, that if in any given region proper measures were adopted for treating the early relapses of malarial disease, and efficient means were employed for destroying dangerous mosquitoes in their larval stage, the prevalence of malarial disease might be materially controlled. An infected patient in a malarious district, he says, is a source of danger to those about him, and the importance to the community of insisting upon the proper treatment of all cases of such disease cannot be too strongly emphasized. He adds that, before we can make an intelligent attempt to exterminate dangerous mosquitoes, we must ascertain definitely what species in this country are dangerous and what are their distribution, their habits and their breeding places.—*New York Medical Journal*, August 11th, 1900.

#### OLIVE-OIL FOR GASTRIC CASES.

Personal experience with large doses of olive-oil in cases of severe gastric distress noted. In the first case the young man had suffered from an injury in the gastric region, and it seemed probable that a traumatic ulcer had resulted. The pain on eating was so great as to make the patient avoid food. A wine-glass of olive-oil taken before meals gave complete relief. The same remedy was then tried on other cases in which stomach discom-

fort was a prominent symptom. Even in cases of gastric cancer relief was afforded to many symptoms. In cases of pyloric stenosis most satisfactory results were secured as far as the alleviation of symptoms was concerned. Besides, the dilatation of the stomach that existed began to diminish and in some cases eventually disappeared completely. These were evidently cases of functional or spastic pyloric stenosis, and the result was most satisfactory. In some of the cases lavage had been tried for a long time without benefit, and in one or two cases with increase of the symptoms. Twelve cases of gastric catarrh were treated by this method with uniformly good results whenever the patients bore the oil well. A certain number of patients, about 1 in 20, cannot take the oil in the doses required; that is, up to about  $7\frac{1}{2}$  to  $9\frac{1}{2}$  ounces per day. In one or two cases this method of treatment was tried as an absolutely last resort before operation, and it proved successful. Patients who had lost so much in weight as to appear almost cachectic, began immediately to gain in weight, and within a couple of months gained from 15 to 30 pounds. Cohnheim (*Med. News*, August 18th.) *Sajous' Monthly Cyclo.*

#### RECRUDESCENCE OF EPIDEMICS OF INFECTIOUS DISEASES.

It is now well recognized that diphtheria may persist in latent form for many months, and that persons may carry virulent diphtheria-bacilli in their throats or elsewhere for a long time, and be a constant menace to those with whom they come in contact so long as the bacilli persist. It is also well known that typhoid bacilli may persist in some of the tissues for more than a decade, and that consequently persons who have had typhoid fever may be capable for a long series of years of infecting their surroundings. Such observations have thrown a new and strong light upon the mode of infection in many cases

which previously seemed in this regard to be absolutely inexplicable. The fact that diphtheria and typhoid bacilli, as well as certain other organisms which are readily recognizable, may persist in virulent form in a person who has had these diseases has been demonstrated with relative ease, because the organisms causing the diseases are well known. Some important observations bearing upon the question of the spread of infectious diseases of more obscure etiology are described by Lippmann (*Deutsche med. Woch.*, June 7, 1900), and they are of much importance in leading to an understanding of the frequent recrudescence of epidemics of infectious diseases, particularly in institutions. The most striking case was that of a boy who had a typical attack of scarlet fever in which the tonsils and glands of the neck were much enlarged. The glands remained large after the attack had passed, but he apparently recovered entirely after normal desquamation. Some weeks afterward hot applications were made over the glands in the attempt to reduce the swelling. The glands did decrease in size, but there was at once another outbreak of scarlet fever with typical symptoms, course, and desquamation. One could scarcely escape the impression that the glands had contained the organisms which cause the disease, and that with their rapid reduction in size these organisms reached the circulation again and caused a new attack. Lippmann describes a number of other cases in which there was apparently a persistence for years of latent scarlet fever associated with enlargement of the glands; attacks more or less closely resembling scarlet fever appearing repeatedly after a typical attack of this disease and persistently recurring for years until the glands were removed, or until the swelling of the glands had disappeared. He also mentions analogous occurrences in other diseases, particularly directing attention to similar recurrences of erysipelas, and states very properly

that we must always suspect that recurrences of infectious diseases may be seen or that the disease may be transmitted to others so long as there are evident remnants of the disease in the form of glandular enlargements or other microscopic changes. Probably there is often the same danger even when microscopic changes are not apparent. While the observations do not contain an essentially new idea they do furnish new evidence that the danger of transference of infection is by no means past when the ordinary evidences of the disease have disappeared, and that we must strive to discover more satisfactory methods of getting rid of the remnants of infections and of learning when danger is past.—*Phila. Med. Journal*, August 4th, 1900.

#### THE BONE MARROW IN INFECTIVE DISEASE.

The *British Medical Journal* of September 29th, 1900, contains an editorial commenting upon the researches of Messrs. Roger and Josué upon bone marrow and its action in infective processes. The following extract gives the most important part of the article in question:—

"The most interesting part of the research relates to the reaction of the marrow under the influence of various poisons. This is so marked and so constant that they consider the marrow to be the centre of defence of the organism against infections. Subcutaneous inoculations of staphylococcus aureus, of streptococci, of tubercle bacilli and of other microbes were made, and also of antidiphtherial serum and other antitoxins and of normal serum; certain inorganic poisons also were administered, such as arsenic, phosphorus, carbonic oxide and others. Invariably the marrow showed strong reaction, though with distinctive differences according to the poison employed.

After a subcutaneous injection of staphylococcus of moderate virulence,

local suppuration and a high degree of general leucocytosis occurred in forty-eight hours. At this time the marrow had become much more red, and an enormous proliferation of cells had taken place. This went on increasing for some days, till the normal marrow structure was lost, and the whole, or nearly the whole, of the fat had disappeared; the disappearance of the fat was confirmed by chemical analyses. The giant cells participated in this increase, but, contrary to expectation, only a few karyokinetic figures were to be seen during the proliferation. About the fifteenth day the marrow began to revert to its normal structure, and the fat to reappear. Streptococci produced practically the same result, but in all cases the marrow remained sterile and yielded no cultures. This fact seems to accord with another, namely, that various toxins free from living bacteria brought about the same result as the living bacilli. Cultures sterilised by heat, and extracts of cultures, that is, alcohol precipitates or alcohol solutions of cultures, behaved in the same way.

Normal serum and antitoxins set up considerable reaction, but of a different kind; for whereas toxins and bacilli stimulated the special marrow cells into enormous proliferation, antitoxins and serum acted principally upon the cells producing red corpuscles. In man changes in the marrow have been observed in tuberculosis, and especially in small-pox, in which the changes go so far that Chiari has applied the term "osteomyelitis variolosa" to them. In diphtheria, however, the reaction, though distinct, is far less marked.

It will be noticed that these alterations in the marrow are not unlike those which have been observed in moderate cases of osteomyelitis; and it has long been known that osteomyelitis may be induced by subcutaneous infection in an animal with an injured bone, and that it has occurred in man without bone injury as a result of

general infection from a wound elsewhere.

If, as Roger and Josué hold, the marrow is stimulated by some selective action in infections, it may be that the reaction, should it become excessive, passes beyond the stage of a defensive pouring in the blood of new cells, and the marrow may itself succumb to the violence of the process. But it is a little difficult to reconcile these observations upon cell increase during infection with such facts as those cited by Dr. McCrae in the *British Medical Journal* of March 31st, where septic infections occurring in cases of leukaemia appear to have had the effect of immensely reducing the number of white corpuscles in the blood. Still the experiments appear to have been both numerous and careful, and seem to prove that, under the influence of infections, there was always immense cell proliferation in the marrow, and also that the cells which had increased in the marrow were, in histological character and in staining reactions, identical with those found in increased numbers in the blood of the animal. The observations and arguments of the authors have an important bearing upon the pathology of myelogenous leukaemia and other forms of leucocytosis, and will well repay perusal both by pathologists and physiologists, whether they are disposed to accept or reject the contention that the activity of the marrow is protective."

#### CHLORETONE AS AN HYPNOTIC.

Chloretone is, perhaps, the safest of all hypnotics. One case is recorded of the administration of 120 grains within twenty-four hours without any more serious result than the production of five days' sleep, barring a few slight interruptions.

The remedy should be given freely and fearlessly from 15 to 20 grains at a dose in severe cases, and repeated often enough to produce the desired effect. Less than 10-grain doses seem to be useless when pain is present.



The ordinary aqueous solution is not strong enough to produce marked local anæsthesia, except under the most favorable circumstances. For hypodermic use, a saturated solution of chloretone in a mixture containing 15 per cent. of alcohol and 85 per cent. of water is sufficiently strong to produce local anæsthesia for minor operations. A still more powerful local anæsthetic may be produced by mixing equal parts of chloretone and ether. This is particularly useful to dentists as an application to the nerve-pulp when it is advisable to remove them. W. B. Hill (*N. Y. Med. Jour.*, August 18th, 1900).—*Sajous' Monthly Cyclo.*

#### CARCINOMA OF THE STOMACH WITH INCREASED HYDROCHLORIC ACID.

In a series of 16 cases of carcinoma of the stomach hydrochloric acid was present, although the absence of this acid is ordinarily considered the most characteristic symptom of this disease. In 12 of the cases the diagnosis was confirmed by operation or post-mortem examination, and 6 have clinical histories highly suggestive of a preceding ulcer. Hydrochloric acid was continuously present in 13 cases, and for a time was found in the other 3, where it was later replaced by lactic acid. The pylorus was involved in 7 cases, the pylorus and lesser curvature in 2, the lesser curvature alone in 1, and the growth was diffuse in 1 case. Lactic acid was present late in 4 patients: in 3 replacing the hydrochloric acid and in 1 associated with it. All suffered greatly from vomiting; retention determined by the presence of sarcinæ or food was well marked; emaciation and loss of strength were striking in every case, and the appetite was poor in most of the cases. A. MacFarland (*Albany Med. Annals*, July, 1900).—*Sajous' Monthly Cyclo.*

#### A METHOD OF GIVING CASTOR OIL.

The method Washburn gives in the *Journal of the American Medical As-*

*sociation* of May 12, 1900, is as follows: Fill the mouth with milk and hold it there; dip up a table-spoonful of milk and pour into this spoon—already full of milk—about a tea-spoonful of oil; whether cod-liver oil or castor-oil, you will see that it displaces milk to the extent of its bulk, as any other liquid would do, but the globules of either of these oils, being different from the globules in milk, do not mix with the latter, and the oil will be in a round ball, not touching the spoon. As you swallow the milk that has been held in the mouth, take the spoonful of milk in the mouth, and at once begin to drink milk from a cup at hand. Washburn has never yet found the person who, if the procedure was carried through in this matter, could tell whether he had taken castor-oil, or cod-liver oil, or taken none at all. There is absolutely no contact with the mouth or throat of any particle of the oil, nor can it be smelled on the spoon. All this implies taking immediately, but not with undue haste.

The oils as well as the milk must be cold, and the colder the better. The quantity can be increased by degrees as the stomach will stand the oil desired, but if a large dose of castor-oil is desired, it can be better given by repeating the procedure than by attempting to swallow too much at one time.

This procedure has given Washburn and so many of his patients, especially parents when administering oils to children, so much comfort that he repeats what he wrote of it over fifteen years ago, hoping others, who do not seem to have heard of it in detail, may also find relief from the nauseous taste that so many dread.—*Therapeutic Gazette.*

#### MOUTH-WASHES TO PREVENT DENTAL CARIES.

The *Journal des Praticiens* of March 31, 1900, states that for the purpose of preventing caries of the

teeth we must be careful to maintain perfect asepsis of the mouth, particularly during the sleeping hours; otherwise fermentation may take place in the organic material left between the teeth or against the buccal mucous membrane. For this reason Huchard employs the following antiseptic solution with good results:—

Crystallized carbolic acid, 1 drachm;  
Eucalyptol, 15 minims;  
Menthol, 7 grains;  
Thymol, 2 grains;  
Alcohol (90-per-cent), 3 ounces;  
Enough cochineal to add proper coloring.

This is to be employed as a mouth wash after it has been diluted with three or four parts of hot water. Instead of this the following solution may be employed:—

Crystallized carbolic acid, 1 drachm;  
Eucalyptol, 15 grains;  
Salol, 30 grains;  
Menthol, 4 grains;  
Thymol, 2 grains;  
Alcohol (90-per-cent), 3 ounces;  
Tincture of cochineal, enough to make a proper color.

This is to be employed in the same way with hot water.—*Therapeutic Gazette.*

## Surgical.

Under the charge of Sydney R. Hodge, M.R.S.G., L.R.C.P.

### TREATMENT OF FRACTURES.

Hitherto the amount of practice that medical missionaries have had in the treatment of fractures in China has been distinctly limited and somewhat unsatisfactory, but the increase of arsenals and the introduction of foreign machinery of all kinds into even inland places, has already increased and will in the future, much more largely, increase the number of accidents involving the breaking of a limb. This being so it is well for us to bear in mind that a Chinaman is very impatient of any delay in getting him well, and that to leave him crippled for his work, is little better than doing nothing. For some time there has been a growing dissatisfaction with the old methods of lengthy immobilisation with splints, which not unfrequently left a man with anything but a useful limb. An interesting paper by W. H. Bennett, F.R.C.S., in the *Lancet* of June 2nd, is epitomised in the *Review of Reviews* for July. It is an article which ought to be read and cannot usefully be curtailed, but we may indicate briefly its general position for the purpose of instigating a reference to the original paper. The author insists that massage and passive movements are the secret of both hortening treatment and avoiding

many of its serious consequences. Pain, frequently due to effusion, pressure, neuritis, and stiffness, secondary to adhesions following exudation, are both most successfully removed by massage, whilst muscle spasm "is more efficiently controlled by massage than by any other plan, excepting perhaps prolonged anæsthesia or narcotism by opium-alternatives which are generally undesirable." "Gentle massage over the fracture, merely a smooth upward movement of the hand which grasps as much as possible of the circumference of the limb, will usually practically relieve all spasm in a very few minutes. The massage must be performed with the hand grasping the limb very smoothly and uniformly. . . . The same smooth movement applied very gently over the swollen parts immediately about the fracture will also rapidly bring about absorption of the effused blood." Splints used in the treatment of fractures should be simple in construction and secured by straps and buckles so as to be easily loosened; they should of course be adapted to the part treated and with a view to facilitating and not hindering passive motion. For instance, in Colles's fracture, "the kind of splint is immaterial so long as the anterior splint is placed well

behind the bases of the fingers," so as to leave them free for movement. Immediate spasm having been allayed at the end of two or three days massage is performed; at first mainly to get rid of the effused blood round about the fracture. At the end of the third day, after practising this smooth massage for ten minutes, passive movement is commenced. These movements will vary with the particular joint affected, and reference must be made to the original paper for detailed instructions, which are fully given. One important rule the writer insists on is the following: "Passive movement should always be preceded by smooth massage which soothes the irritable muscles so completely that movements of the most complete kind are readily carried out without exciting muscular contraction of a harmful kind." In most cases of fracture at the end of three weeks complete ordinary muscle massage may be thoroughly carried out in order to develop the muscles throughout the whole limb. In fracture of the patella Mr. Bennett points out that the most important thing to remember is, "from the outset to secure free movement of the patella upon the femur."

This article was followed the following week by one advocating the application of the same principles to the treatment of dislocations, sprains and bruises. "After a dislocation, if massage and passive movement be employed at once, wasting can be entirely prevented; prolonged fixation produces muscular atrophy, which may lead later to recurrent dislocation." The only method by which muscular atrophy can be avoided after dislocations is by massage, commencing immediately after reduction—smooth rubbing only for the first two days, after which passive movement follows the massage. **THIS PASSIVE MOVEMENT MAY BE VERY FREE IN ALL DIRECTIONS, SAVE THAT WHICH IS IN THE DIRECTION OF THE MUSCLES WHICH TEND TO WASTE.** The

same principles apply to sprains, etc., where "the objects are the restoration to the normal state by the rapid removal of effused products, the prevention of adhesions and the avoidance of muscle waste." The following points are important in carrying out passive movements in cases of sprain: "The first movements used should be those of the simplest kind; for example, flexion and extension in the hip or knee, antero-posterior movement in the shoulder; abduction and adduction should then follow, and finally rotation and circumduction in joints permitting of those movement. This sequence, however, is always interrupted, for the following reason, which is of paramount importance: **THE LAST MOVEMENT TO BE PRACTISED SHOULD BE THAT WHICH, SO FAR AS CAN BE ASCERTAINED, WAS CONCERNED IN THE PRODUCTION OF THE INJURY.**"

#### SURGICAL SEQUELÆ OF TYPHOID.

Last month I gave some particulars of a condition named typhoid spine; among other uncommon surgical sequelæ are acute orchitis and affections of the joints, especially ankylosis. The former of these two affections is by no means common, but one or two cases have been reported. They occur mostly in the stage of convalescence; are liable to go on to suppuration and the pus contains characteristic colonies of Eberth's bacillus. "Affections of the joints after typhoid fever are not very frequent. Cases of rheumatic typhoid, septic typhoid arthritis and typhoid arthritis proper of the polyarticular and monarticular varieties have been described; the larger joints, such as the elbow, shoulder ankle and knee, and especially the hip, are more commonly affected. In more than one-half of all the cases of typhoid arthritis spontaneous dislocation of the hip joint has followed. Usually during convalescence there arises sub-acute synovitis with gradual distension which may slowly subside without

further trouble. The apathetic condition of the patient and the mildness of the symptoms often cause such joint affections to be overlooked. Prof. Keen has collected 84 cases of joint affection after typhoid fever; in only six was ankylosis found, so that this condition is one of the rarest sequels. The treatment consists in breaking down adhesions and straightening the limb under anæsthesia, and failing this in correcting the condition by tenotomy and applying a splint. In some extreme cases osteotomy might be indicated"—(*Philadelphia Med. Jour.*, M. B. Tinker, M.D.)

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#### GANGRENE FOLLOWING USE OF DILUTE SOLUTION OF CARBOLIC.

In the July number of the *American Journal of Medical Science* is an interesting article by F. B. Harrington on gangrene following the use of dilute solutions of carbolic acid. In all 132 such cases have been reported, in a large proportion of which amputation has been necessary. In his own case, which was that of a young girl who dressed her cut finger for over twelve hours with a weak solution of carbolic acid, the process was a total superficial necrosis with deeper purulent inflammation and hæmorrhage. "Numerous cases have been reported in which three and two per cent solutions have caused gangrene which has resulted in amputation." In most cases the dressings have been kept on from twelve to twenty-four hours; "probably the strength of the solution has less to do with the result than the length of time of application and thickness of the epidermis." It is seldom that strong solutions do much mischief, as they are caustic in action and form a scab which protects the deeper tissues, but the injury produced by weak solutions is favoured by the painlessness of the process which serves to divert attention. "In 1896 Josef Lovai

showed by a series of careful experiments that gangrene from the use of carbolic acid is due to a direct chemical action on the tissues, and that other dilute chemicals have the same effect. Five per cent solutions of muriatic, nitric, sulphuric and acetic acids and of caustic potash produce gangrene when applied to an extremity by a moistened compress for twenty to twenty-four hours. The histological examination shows that in the beginning each of the diluted chemicals applied in the form of a moist dressing produces the same effect; the epithelial layer becomes œdematous and loosened; as soon as a way has been made to the deeper layers each agent produces necrosis, which takes place in layers downward. Maceration of the skin having taken place, as a result of prolonged action of the watery solution, the penetration of the chemical becomes very easy and rapid." If the case is seen early, and the process has not gone beyond a superficial lesion, a bland alkaline application, such as lime water, is recommended, but the lesson to learn is, NEVER TO USE CARBOLIC SOLUTION IN ANY STRENGTH AS A MOIST DRESSING.

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#### CONTROL OF EPISTAXIS.

Epistaxis is not uncommon in China, and occasionally is very profuse. I have never had occasion to plug the posterior nares and have generally succeeded in stopping it by Mr. Hutchinson's suggestion of plunging the patient's feet into a tub of hot water and gradually raising the temperature. I have also found a solution of antipyrine useful, to which, in severe cases, may be added tannin, dissolved in it. Now a new suggestion comes from Germany, and consists in the injection into the nostril, by means of a syringe, of from two-thirds to one ounce of a warm liquid gelatine solution. The *alæ nasi* must of course be compressed so as to prevent the liquid escaping. The gelatine sets into a firm mass, and

so mechanically arrests the hæmorrhage. This is the way in which the antipyrine tannine solution acts, but this latter has the disadvantage of being difficult to extract, so firmly does it set into the tissues. The gelatine solution is prepared by dis-

solving six ordinary strips of white gelatine in a cup of boiling water. The detection of the bleeding point with a good light, and the application of the electric cauters is another good method of treatment.

## Gynecology and Obstetrics.

Under the charge of R. Gifford Kilborn, M.D.

### THE EFFECT OF MALARIAL DISEASE UPON PREGNANCY.

The effect of malarial disease upon pregnancy has been carefully studied by Mr. F. H. Edmonds, F.R.C.S., of Georgetown, Demerara, in a paper which appears in the *Journal of Tropical Medicine* for May. The author considers the effect of malarial conditions—intermittent, remittent, and cachectic—on (1) the period from conception to the sixth month and (2) that from the sixth month to the end of the puerperal period.

Simple intermittent fever, he considers, has no effect upon conception, and, if the attack is mild, no influence on either the mother's life or that of the child. If, however, the temperature rises over, say, 104° F., he finds that abortion is very apt to take place. When acute intermittent fever attacks a pregnant woman in this first period, contractions of the uterus are set up which cause abdominal pain, and the womb can be felt hard and firm. Should the temperature, however, remain moderate, i. e., below 104° F., the administration of quinine causes a gradual cessation of the effect upon the uterus, and danger to both mother and child may pass off.

Abortion has been attributed to the use of quinine in pregnancy. An instance was reported by Assistant Surgeon Balajapal, of the Indian medical service, in the *Indian Medical Record* for October 1, 1898, and cited in the *New York Medical Journal*

for December 3rd of that year. In this case the abortion set in after the fourth dose of a mixture prescribed for remittent fever had been taken. It is fairly safe to conjecture that quinine administered in any quantity during pregnancy is probably prescribed in consequence of malarial disease, whence, if Mr. Edmonds's view is correct that abortion is prone to occur in pregnancy whenever the temperature is high, it may be that the quinine gets credit for effects which are really due to the malarial disease itself.

According to the author, remittent fever has the same effect on pregnancy as simple intermittent fever, differing only in degree; the fever being usually higher. Abortion is much more common in remittent fever, and is often followed by severe hæmorrhage. A malarial cachexia, however, does not seem to be any bar to conception or to interfere with the course of pregnancy, probably in consequence of the usual absence of high temperature.

It is in the later period of pregnancy, however, that the greatest danger arises. With the onset of the paroxysms, whether of intermittent or of remittent fever, the fœtal movements become very strong and are accompanied by severe pain. Playfair, in his *Science and Practice of Midwifery*, notes the fact that intermittent fever is prone to affect the fœtus *in utero*, causing convulsive movements, sometimes synchronous with those of the mother, at other

times dissociated therefrom, but in any case periodic. Further, after the birth of the child attacks synchronous with those of the mother may occasionally be observed, and malarial enlargement of the spleen is often present. But it not infrequently happens that after one or two paroxysms uterine cramps ensue, which limits the foetal movements till they finally cease, and after a while a further paroxysm results in the expulsion of a foetus bearing evidence of intra-uterine death. This is almost sure to be the case if the temperature rises much over 104° F.

The appearance of bilious remittent fever during or just after parturition is the most dangerous condition for the mother. The author says: "I have seen young and healthy women pass to the last week of pregnancy in good condition, then fall off, become sallow-looking, owing to low remittent fever; during labor the temperature rises, the tongue gets thickly coated with a yellow fur, the patient becomes very restless, the pains weak and long drawn; after delivery there has usually been gushing of dark fluid blood; then an improvement for—usually—forty-eight hours, when a relapse (another paroxysm?) comes on with higher temperature, deeper jaundice, greater weakness and constipation, which, on relief being given by an enema, results in the passage of a large, black, stinking stool. After five or nine days' alternations—each marked by increasing weakness—the patient dies quietly, with many appearances of puerperal fever, but having had her lochia of good color, quantity and odor; and having had no uterine pain or tenderness. In these cases the child is frequently strong and healthy, but there is not a more dangerous condition for a woman than to be seized by a malarial remittent during her puerperium."

The author strongly urges the early use of quinine (five grains every four hours in his own prescription) in pregnant patients afflicted by malarial disease, especially during the second

period of pregnancy. It seems to us that any supposed danger of abortion from the quinine is most probably based upon a fallacy, and that in cases in which abortion has followed its use when administered for malarial disease, the malaria and not the quinine has been responsible. In that case, it is likely that an examination of the foetus would have shown indications of intra-uterine death some few days, possibly, prior to the expulsion. This point is well worthy of the attention of practitioners in malarious districts.—*N. Y. Med. Journal.*

#### THE USE OF INTRA-UTERINE INJECTIONS IN PUERPERAL FEVER.

Dr. George Rowland (*Obstetrics*, August) asks: "Finally, what shall we do when confronted with puerperal fever?" We find the patient, he says, in a grave condition, intensely intoxicated with the poison-producing agent, and delirious. There is no specific for this fever. The septic infection is now beyond the reach of the physician. We must prevent any more poison entering the system. Neutralize the poison at the point of production and assist the patient to eliminate the poison from her system through all emunctories.

The external genitals should be cleansed with soft warm water and green soap, followed by thorough application of bichloride solution, 1 to 1,000. The vaginal tract should be cleansed with hot water, followed by bichloride solution, 1 to 3,000, and continued until it escapes clear. The uterus should be completely evacuated of any foreign substance. Hot water should be thoroughly used, followed by hot bichloride solutions, 1 to 5,000, injected into the uterus continuously until the solution escapes clear. When this is done the body of the patient should be placed in such a position as to secure rapid drainage. This should be continued every six hours for the first day and night, after which the iodoform gauze, 10 per cent., should

be packed into the uterine cavity, when thorough disinfection ensues. It promotes contraction of the uterus, removes fluids, and is a source of great comfort to the patient. This procedure should be repeated daily, while a large pad of bichloride gauze should be constantly and repeatedly applied to the external genitals.

Probably objections will be offered to the intra-uterine injection of any fluid. These objections are based upon the probability of fluids being forced through the Fallopian tubes into the peritoneal cavity.

When we remember that the Fallopian tube of an adult woman is four inches long, and that the orifice at the uterine extremity is extremely minute, scarcely admitting a fine bristle, the bare possibility, when the patient is placed in a semi-erect position at the time of injection, is exceedingly remote of any fluid passing into the peritoneal cavity. In all the author's experience of years past he has had no evil results.—*N. Y. Med. Journal.*

#### HEMORRHAGE AFTER CONFINEMENT.

Hayd (*Journal of the American Medical Association*, June 30, 1900) states that the usual early causes of postpartum hemorrhage are uterine inertia, irregular uterine contractions, placental adhesions, and hemophilia. Later it may be due to rolling in bed before the binder is applied, and the too early assumption of the sitting posture for the functions of micturition and defecation. The treatment when the hemorrhage occurs early is to adopt such means as will rapidly produce strong uterine contractions. The placenta, if not already expelled, should be expressed at once by the Cr  d   method. The uterine contractions should be stimulated by manual pressure; ergot alone or in combination with belladonna or atropine, and the stimulants ordinarily employed for the relief of shock, should be given in full doses. Occasionally a hypodermic

injection of a drachm of sulphuric ether acts very well. Large subcutaneous saline injections should be freely administered. Sometimes the intra-uterine injection of very hot water or the copious application of hot vinegar will speedily excite contractions. The abdominal aorta should be firmly compressed if the hemorrhage is alarming. If these means fail the uterus should be packed with large, broad strips of five-per-cent iodoform gauze and the vagina tamponed with the same material. Hemorrhage as the result of laceration of the soft parts or cervix is easily controlled by appropriate suturing with catgut. Hemorrhages occurring some days after labor are often due to retained pieces of placenta or secundines, submucous and intramural fibroids, retroversion of the uterus, endometritis either septic or gonorrheal in origin, hematoma of the labia, and subinvolution of the uterus as the result of an old unrepaired laceration of the cervix.—*Therapeutic Gazette.*

#### PRIMARY TUBERCULOSIS OF THE GENITAL ORGANS IN WOMEN.

M. Samuel Bernheim, of Paris, had collected eighty cases of primary tuberculosis of the female genitalia, from which he drew the following conclusions: 1. This localization of the bacillus was not rare, and it would be more frequently diagnosed if a systematic search for Koch's bacillus was made in the genital secretions of every woman suffering from a uterine affection. 2. Primary tuberculosis of the genital organs was frequent, especially in women in full sexual activity, that was to say from fifteen to thirty years of age. It had, however, been observed in young children and in aged women. 3. The causes of the contagion were many; sexual relations, prior infections such as chancre, syphilitic ulcerations, blenorragia, and contact with or introduction of improper foreign bodies. Certain individual conditions favored contagion. 4. The

bacillus showed a preference for certain parts of the genitalia. This primary tuberculosis was most frequently met with in the region of the tubes and ovaries, and more rarely in the uterus and vulvovaginal canal. The author gave anatomic and bacteriologic reasons for these facts. 5. When a uterine affection presented no clearly inflammatory characters, it was necessary to think of tuberculosis in order to arrive at a diagnosis by an ensemble of special symptoms, or by the tuberculin test or serum reaction.—*Thirteenth International Congress, New York Med. Jour.*

#### “STUMP PREGNANCY.”

Dr. John C. Morfit (*Journal of the Alumni Association of the College of Physicians and Surgeons, Baltimore, July*) records a very interesting case. In August, 1897, the patient, a young working girl in a department store, had produced on herself an instrumental abortion, and was suffering from serious symptoms which called for laparotomy. This was done, and the right ovary and tube were removed. Recovery was uneventful.

December 17, 1899, two years and four months later, Dr. Morfit was called to see this same patient. She had a weak, thready pulse that he could not count; she seemed worried; the lips were pale, the hands and feet cold, the respiration quick and shallow with nostrils dilating at each respiratory excursion; she stated in slowly spoken words, that she had been two weeks overdue in her period and believed she was pregnant. She complained of the most intense pain in the right side from the shoulder to the hip, with especial reference to the right iliac region. She was so weak, nervous and excited, that Dr. Morfit did not attempt to make a thorough examination. There was no mistaking hæmorrhage, however, with such symptoms. He gave three-eighths of a grain of morphine and one-thirtieth of a grain of strychnine hypodermical-

ly, and in half an hour injected a quart of salt solution into the rectum. This was retained and the pulse soon became steady at 120; the temperature was below normal. As she was quiet and calm, Dr. Morfit left her and returned early in the morning. At this time he was able with less difficulty, but not without causing the patient considerable pain, to examine the abdomen, which was much distended and tympanitic except low down posteriorly at the sides, where there was bulging and dullness. The pulse was now 110 and much stronger than on the previous evening, but the patient was too weak to stand anything, and was kept at absolute rest. He repeated the salt solution per rectum and encouraged the patient to drink all the liquid possible. The symptoms continuing, however, and profound collapse setting in, Dr. Morfit succeeded in getting her into hospital thirty-six hours after his first visit, and decided to risk an operation, although he had but little hope of bringing the patient off the table alive. He made the incision in approximately the same line as the first operation of two years previously, and encountered several embedded silkwormgut sutures. There was a band of adhesion running backward to the fundus of the cæcum, just to where the vermiform appendix is given off. This two-inch adhesion resembled a thread of catgut. The belly was full of black, but sweet-smelling clots, and there was quite a quantity of fluid red blood. Knowing that he had removed the right appendages, he sought the left adnexa, felt his way through the clots and applied a forceps to the proximate portion of the left broad ligament. With this pressure he felt at ease to proceed to the toilet of the belly, and must have removed more than a gallon of clots and fluid blood. What was his surprise on getting a clear field to see that the oozing was from the stump of the old operation. There it was, about three-fourths of an inch long, and ruptured, presenting a fuzzy



placenta to view. Another forceps was applied to the right side, both tubes lighted close to the womb, and the distal portions removed. The abdomen was then filled with normal saline solution and sewed up with several layers of buried catgut sutures. The patient was returned to bed, and everything done to sustain strength and lessen the shock. Artificial respiration was kept up for over two hours, salt solution was injected per rectum, under the breasts and into the cellular tissue of the thighs. Twenty hypodermic syringeloads of brandy, besides strychnine and nitroglycerin, were administered. For many hours the patient seemed to be only artificially alive, but persistent efforts were finally rewarded by a gradual return of consciousness, and more emphatic evidences of real life. In four weeks the patient walked to her carriage and was driven home. To-day, he says, she is a picture of perfect health and suffers nothing. In the ovary removed there was a large ruptured Graafian follicle.

This, Dr. Morfit believes, is a variety of extrauterine pregnancy which has never before been met with, and for that reason he has named it *stump pregnancy*, it having occurred in the remains of a tube, the proximal end of which had not been entirely removed. The absence of the ovary and most of the tube on the right side, the occlusion by ligature of the stump, the presence of a normal ovary and tube on the left side, and a large corpus luteum being present in the only ovary, lead to but one possible conclusion. The fertilized ovum came from the left side, passed through the left tube and the uterine cavity up into the remains of the tube on the right side, where it began to develop and finally ruptured the tube into the abdomen.

This, says Dr. Morfit, upsets the heretofore generally accepted view, that ectopic pregnancy is due to some mechanical or inflammatory hindrance to the normal downward passage of

the fertilized ovum. He believes that this case proves quite clearly that the ovum may travel either up or down; and that wherever an ovum may be fertilized, in the ovary, tube, or uterus, it seems certain that it can come from either side and go everywhere and anywhere before anchoring itself preparatory to development.—*New York Med. Jour.*

#### OBSTETRICAL "DON'T FAILS."

By Charles I. Page, M.D., in *New York Medical Journal*.

Don't fail, when engaged to attend a confinement, to ascertain the character and number of previous labors, abortions, etc. Don't fail to remark that you cannot predict with certainty when delivery will take place. Don't fail to impress upon the patient the difficulty of preventing and curing the vomiting of pregnancy. Don't fail to examine the patient's heart. Don't fail to examine the urine at regular intervals. Don't fail to examine the generative organs. Don't fail to refuse to "help your patients out of trouble." Don't fail to respond at once when a pregnant woman sends word that she is flowing. Don't fail to determine the presentation by the seventh month. Don't fail to give instructions in the hygiene of pregnancy. Don't fail to inspect the lying-in room and the articles needed during parturition. Don't fail to carry out asepticism; you may save yourself a guilty conscience and perhaps a patient. Don't fail to learn the condition of the bowels; it sometimes saves time and disagreeable features during the second stage. Don't fail to forbid the patient to use the water-closet during labor; puerperal fever is occasionally caused in this way. Don't fail to carry a perfectly equipped obstetrical bag. Don't fail to have boiling water at hand. Don't fail to see that the patient has a new fountain syringe; the family heir-loom is dangerous. Don't fail to *forget* to use the syringe after a normal labor; it is not in-

licated. Don't fail to have the examining hand aseptic; septic germs are busy beings. Don't fail to avoid too frequent examinations. Don't fail to make use of bisulphate of quinine in uterine inertia. Don't fail to remember the indications for using the catheter. Don't fail to remember that there is usually a decided interval between the ending of the second and the beginning of the third stage

of labor. Don't fail to employ Credé's method with a retained placenta. Don't fail to examine the placenta. Don't fail to examine the perinæum. Don't fail to remain with the patient one hour after delivery. Don't fail to administer ergot. Don't fail to leave written instructions with the nurse. Don't fail to examine mother and child before leaving. Don't fail to return within six hours.

### Diseases of the Skin.

#### PARASITIC ORIGIN OF ECZEMA.

The *New York Medical Journal*, in its issue of September 29th, 1900, gives the following résumé of some papers on the above subject presented to the Thirteenth International Medical Congress:—

"Dr. Unna, of Hamburg, said that:

1. The uncertainty attaching to the pathogenic agents of eczema was, in part, the consequence of the absence of any satisfactory classification of cocci in general. 2. The classification so far adopted for cocci, other than streptococci and sarcinae, was entirely artificial, and insufficient to determine exactly and to distinguish species analogous but fundamentally different from a pathological point of view. 3. One of the means of arriving at a better definition and classification of cocci consisted in a more exact microscopic study by means of certain special color methods. 4. To establish definitely the causative rôle of a parasite of eczema, it was above all necessary to prove that the histobacteriologic lesions produced by inoculation with these parasites corresponded exactly to the histobacteriologic lesions of eczema. 5. Among the numerous microorganisms found in eczema there were many which on inoculation reproduced eczema. 6. The work of the future, in so far as eczema was concerned, must consist in the first place in recognizing the different forms of eczema as in part due to the

action of different microorganisms. 7. Eczema was a contagious disease and, under certain circumstances, an epidemic one."

Dr. James Galloway, of London, after detailing his experiments in the cultivation of bacteria from the lesions of papulo-vesicular eczema, said:—

"The conclusions which seemed to be indicated by the considerations above outlined were:

"1. Cocci producing white cultures are present in early and uncomplicated lesions of papulo-vesicular eczema, but these cocci, though varying in minute particulars in different strains, are not sufficiently differential to distinguish them from the *Staphylococcus pyogenes albus*. The morococcus described by Unna falls into this category. The descriptions given by him are not sufficient to distinguish it as a separate species. There is still less evidence to consider this organism as the specific organism causing eczema.

"In later stages of eczema other organisms make their appearance, so that the coccus yielding white cultures may even be crowded out of existence. The most important of these organisms is no doubt the *Staphylococcus pyogenes aureus*.

"2. It appears that in the production of eczema more than one factor is at work, though the presence of such organisms as those mentioned, which are well known to have pyogenic

powers, must be an important factor in every case. These organisms do not grow in such enormous numbers on injured surfaces without producing some result. From our knowledge of their effects in other situations the result must be noxious. The local infectivity and chronicity of eczema are probably mainly due to the presence of the organisms mentioned.

"3. Other factors, however, are probably concerned in the production of any attack of eczema, and of these, two appear to be of much importance:

"First, the predisposition of the skin, usually associated with the seborrhœic state, to the free growth of many varieties of vegetable parasites. This is probably the most effective of all the conditions of susceptibility or of lowered resistance in the causation of eczema.

"Secondly, the clinical evidence seems to be conclusive that certain conditions of imperfect metabolism predispose to the onset of eczema or at any rate to its recurrence; and of these, the most common are those associated with improper digestion and assimilation of food."

#### THE TREATMENT OF RINGWORM ON THE SCALP.

Jamieson writes in the *Edinburgh Medical Journal* for June, 1900, on this subject. He believes that in treatment the following are the rules to be observed: (1). The hair must not only be cut or shaved off, but the entire scalp must be kept bare of hair, by razor or curved surgical scissors, till the cure is complete. In this there can be no compromise. Those in care of the child are apt to evade this injunction, on the ground that to them the disease seemed cured; but the doctor, aided by the microscope,

ought alone to be the judge as to when the hair may be allowed to grow. (2). Again, the scalp must be kept rigorously clean. It must be washed twice daily with a fluid superfatted potash soap and warm water, the soap being poured on a piece of wet flannel and moderate friction employed. Such a soap only will keep the surface soft, polished, and adapted for the reception of remedies. The affected areas usually show a pinkish tint, as compared with the healthy, while diseased hairs do not all grow in the proper direction. The application which has proven most efficacious in his hands is one modified from an old formula of the late Sir William Jenner. It consists of precipitated sulphur, 1 drachm; salicylic acid, beta-naphthol and ammoniated mercury, each 10 grains; and lanolin, 1 ounce. For lanolin we may perhaps substitute vasogen, an oxidized vaselin, which is credited with enhanced absorptive powers; but his experience of it is yet too small to enable him to speak with confidence. One point of great consequence is that the ointment be rubbed in for ten minutes slowly and carefully twice a day. In this way the epidermis becomes charged with the antiseptics, the sulphur, mercury, and naphthol; while the salicylic acid favors the moulting of the diseased hairs while increasing the porosity of the skin. In compounding we may replace the naphthol by thymol, or we may use in exchange a salve of oleate of copper in the proportion of 25 to 50 grains to the ounce. Whatever we use the principle is the same—the steady saturation of the permeable epidermis with substances hostile to the fungus. In this way, and in this way only, in the present state of our knowledge, by patient insistence, we can cure the most refractory instances of ringworm of the scalp.—*Therapeutic Gazette*.

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## Editorial.

All communications concerning the Editorial Department of the *China Medical Missionary Journal*, should be addressed to Dr. JAMES BOYD NEAL, Chefoo. All business communications and subscriptions should be sent to Presbyterian Mission Press, 18 Peking Road, Shanghai.

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### OUR MEDICAL MARTYRS.

The fears which were entertained when the October number of the JOURNAL went to press that at least four of our medical missionaries had been massacred, have been confirmed during the past weeks. There seems absolutely no hope that any of those mentioned in our last issue have survived.

Of these the first, in order of seniority, is Dr. George Yardley Taylor, of the American Presbyterian Mission in Pao-ting-fu, who came to China in 1887, and who for a number of years was associated with Dr. Atterbury in the care of the Presbyterian hospital in Peking. When the new station of Pao-ting-fu was opened a few years ago Dr. Taylor went there as the medical member of the Presbyterian force, and remained at his post until brutally murdered on the 30th of June. It is said that the doctor went out to remonstrate with the crowd when they came to attack the compound, in which all of his Mission were gathered, but instead of obtaining a hearing he was hacked to pieces in front of the gate. Dr. Taylor was universally respected not only for his surgical skill, which was very marked, but also for his lovely Christian character and for his modesty. He was very fond of music, and delighted in the singing of hymns; one of his favorites being that familiar one which has comforted the hearts of many of God's children, "Jesus, Saviour, pilot me." Dr. Taylor was never married, but lived during his later years with Mr. Lowrie and his mother, who were tenderly attached to him.

Dr. Millar Wilson, of the China Inland Mission in Ping-yang, Shansi, came to China in 1891. All that is known of his movements is what was reported in the October number of the JOURNAL, namely that he left his station on the 19th June to join Mrs. Wilson in Tai-yuan-fu, where he arrived on the 26th. His last letter was dated from that city July 6th, so it is supposed that he perished with the other victims of Yu Hsien's ferocity a few days later. Dr. A. E. Lovitt, of the China Inland Mission in Tai-yuan-fu, came to China in 1897, and at the time of his death was supplying the place of Dr. Edwards, who was at home on furlough. Dr. Edwards himself said to the writer: "I feel that Dr. and Mrs. Lovitt have taken the place of Mrs. Edwards and myself in their martyrdom in Tai-yuan-fu. We should certainly have been the victims but for the fact of our being temporarily away from our station." The case of Dr. and Mrs. Lovitt is especially touching from the fact of Mrs. Lovitt's father, the Rev. Dr. Grant, who for a number of years worked among the Chinese in Singapore, having only recently returned from a visit to his daughter and son in Tai-yuan-fu. His anxiety for his dear ones, whom he had so recently seen, and his sorrow over the terrible news of their murder, was most affecting.

The youngest member of the martyred group, Dr. C. V. R. Hodge, of the Presbyterian Mission in Pao-ting-fu, came to China in 1899. He had just been appointed to remove from Pao-ting-fu (where he had gone to be with Dr. Taylor during his first year of study of the language) to Peking to take charge of the hospital there, and had returned to Pao-ting, from a short trip to Peking, to make his preparations for moving, when he was caught in the storm which broke out so suddenly, and was murdered with the rest of the members of his Mission, June 30th. Both Dr. and Mrs. Hodge were greatly liked by those who had met them, and their life in China seemed to be opening up with great promise.

Beside the above four, who met their death in such a tragic and affecting manner, we have in this issue to record the death of another of our number, who may be said to have as truly given her life for the Chinese. Dr. Mary Brown, of the American Presbyterian Mission in Wei-hsien, Shantung, died in Canada, August 14th, 1900. A very appreciative notice of her life and work by Dr. Johnson will be found in another column, and also some notes among the "Personals." Dr. Brown was privileged to leave deep marks of her influence behind her in the field in which she worked.

## MEDICAL MISSIONARIES IN GOVERNMENT POSITIONS.

In the "Correspondence" columns will be found a letter from "Curious" on the subject of the duty of medical missionaries to offer their services to their respective governments during their enforced absence from duty at their various stations. Following this letter will be found the reply of Dr. Wolfendale, both published originally in the *China Gazette*.

In addition to the case of Dr. Wolfendale, who is now and has been for some months in H. B. M. service as surgeon on board the S. S. *Pioneer*, which is stationed at Chungking, we may mention the following who have rendered good service during the present troubles in various government positions. Dr. Mary L. Burnham and Miss Dr. Wallace volunteered for work as nurses in the military hospital at Wei-hai-wei and served at that post for a number of months until their help was no longer needed.

Dr. James A. Greig, of Manchuria, accompanied the Russians from Vladivostock toward the west, to engage in Red Cross work and to be as near as possible to his old station of Kirin. So far as known he is still engaged in this government work.

Dr. Chas. Lewis served for three weeks as surgeon on board the U. S. S. *Yorktown*, after which he secured a position in the American army in Tientsin, and is now regularly employed in military work.

Dr. Learmonth was for some time engaged in hospital work among the British wounded in Tientsin.

Drs. Peill and Young have both been engaged for months in military work in Wei-hai-wei, in connection with the British government.

Dr. E. C. Smyth served for more than a month in the British navy as an assistant surgeon, and would still be in that position but for the fact that his services were no longer needed, either in the navy or the army, to which he applied for appointment.

Those mentioned above are all who have been reported to the JOURNAL as engaged in military work; there may be others, of whom the editor has not heard. They by no means, however, represent all the medical missionaries, who would have been glad to make use of their medical skill in helping their fellow-countrymen, either in the army or navy. So far as the writer is aware no call was ever issued by any army for volunteer surgeons, and when applications were made by individuals the positions had to be sought for, and the impression was made of conferring a favor upon the applicant rather than the reverse. Such a

state of affairs was rather discouraging to those who would have been only too glad not only to have been of service to their fellow-countrymen, but to have had an opportunity for some experience in military surgery.

In two cases which have come to the writer's knowledge (there may be many more) two fully qualified surgeons failed to secure any appointment whatever, though they were most anxious to be allowed to serve. The fact seems to be that there was no serious need of outside help beyond what was available in the regular forces of the armies and navies.

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#### LESSONS FROM A YEAR'S EDITING.

As the present number marks the beginning of a new year in the life of the JOURNAL, and the commencement of the second year of the present editor's tenure of office, it seems a fitting time to gather up the lessons of the past year in so far as they concern the conduct of the JOURNAL.

When the writer entered upon his duties he addressed letters to all the members of the Association, so far as he could learn their names, and also to others, asking them to send contributions to the JOURNAL, either in the line of regular medical articles or evangelistic notes or personal notes. The answers to these letters have been painfully few; the majority of them having been ignored by the recipients altogether; others eliciting a polite refusal, while a very small proportion have been successful in extracting articles from those to whom they were addressed. For the measure of interest which has been taken in the JOURNAL, the editor feels very grateful indeed, but he cannot but feel that there is room for a great increase in that interest, especially by those who have never contributed to the JOURNAL in any way. If only half the members of the Association would make it a rule to send only one article a year to the editor's office there would be no difficulty whatsoever in getting the magazine out in time every quarter, but as it is, every time the JOURNAL is due there is great anxiety as to the various departments which go to make it up, and a large amount of correspondence is necessary to insure the requisite amount of copy.

So far it has been easier to secure sufficient material for the department of "Original Communications" than for "Evangelistic," which it seems very desirable to maintain if possible at a high degree of efficiency.

The editor would therefore make a special plea for a more general interest in this particular part of the JOURNAL and for more frequent articles for this department.

In the line of "Personal Notes and News Items" and "Correspondence" it would be a great pleasure to hear more frequently from the various members of the Association of their doings and plans and of the movements of friends who are too modest to write themselves. A more lively discussion in the pages of the JOURNAL of the various questions which meet us all in our work, would seem to be very desirable. Just at this particular juncture, when in so many regions the medical work has been so rudely interrupted or completely destroyed, and when questions of reconstruction and of plans for renewed work in the future are before us, it would seem most desirable that we should all be free and frank in our public discussion of the pending questions. During the coming months, when so many are away from their regular work and so many have left the country, we would beg that those who remain would take an especial interest in keeping the JOURNAL up to a fairly good standard, one which will do us credit in the eyes of the world and which will show everybody that we are accomplishing a grand work here in China.

In conclusion, the editor would like to say that criticisms and suggestions in regard to the conduct of the JOURNAL will be most welcome; indeed will be most deeply appreciated. Let it be remembered that this is not the JOURNAL of one man, but of the Medical Missionary Association of China, and we are all responsible for what we make of it. Let us all work together to make it worth reading and to put it into the hands of as many of our medical friends as possible.

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#### THE NOMENCLATURE COMMITTEE; ITS NEED OF FUNDS.

Plans are being made for a meeting of the Committee on Medical Nomenclature in Shanghai during the winter, and it is hoped that much good work may be accomplished during the two months or more of its prospective session.

The work in several departments is fairly well advanced, and there seems no reason to doubt that at least the lists of terms in *chemistry*, *anatomy*, and *physiology* will be finally determined upon, and those in other lines be gone over to some extent and possibly in some particular departments settled. The committee, however, is confronted with the question how to meet its necessary expenses. The members of the committee, who go to Shanghai, are more than willing to pay a large



share of the extra expense involved in the journey and in staying so long in Shanghai, but it will be a considerable tax to have to meet the whole of this expenditure out of private funds, and if compelled to do so the committee will certainly not feel it can meet very soon again. Now it is very desirable that after this coming meeting in Shanghai, there should be another meeting, say in the summer or autumn, to finish up the terms, so that the making of necessary text books and the revision of old ones may be proceeded with. Again, the lists must be published when completed and distributed to members of the Association, a matter involving a considerable outlay. Now how shall these various expenses be met? The Association has in Shanghai a fund of some four hundred Mexicans, which stands to the credit of the MEDICAL JOURNAL, but which is undoubtedly the property of the members of the Association. Shall the secretary of the committee be authorised to draw on this fund for absolutely necessary expense connected with work of the Nomenclature Committee, or shall a subscription list be opened for this purpose? The members of the committee would be glad to have an expression of opinion from those interested in the matter to guide them in their actions. The JOURNAL will be open for correspondence on the subject. It will of course be remembered that \$400 will not be sufficient in all probability to meet the expenses of the meetings and to also publish the lists. There will certainly be a chance for any one to contribute who feels so disposed. If any one does wish so to do, Dr. Cousland, of Chao-chow-fu, Swatow, who is secretary of the committee, will be happy to take charge of the contributions and acknowledge them in the JOURNAL. An account of all expenses paid for out of such contributions or from the funds of the Association will also be published in due time in the JOURNAL.

P. S.—Since the above was written a letter from Dr. Cousland has been received, adverting to the matter. His letter will be found under "Correspondence."

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It will be good news to all who are acquainted with the book to learn that Smith's Chinese Materia Medica is being revised by Dr. Stuart for publication by the Presbyterian Mission Press in Shanghai. It is a book which has been most useful, but has been so long out of print that few of the younger members of the Association are probably acquainted with it. The superintendent of the Press writes that there are still many inquiries for it, so that no doubt when the new edition is

issued there will be a considerable demand for it. It is a book which gives much information about the drugs procurable in the Chinese shops. It is to be hoped that Dr. Stuart may be able to go right along with his revision, so that the new edition may soon be on the market.

\* \* \* \* \*

In this first issue of the new year, the editor wishes to make a special plea to those issuing hospital reports to allow the JOURNAL the use of any plates they may have made for use in illustrating their publications. It will add greatly to the interest of the notes on hospital reports, if they can be accompanied by pictures of the hospitals referred to, and if the medical men and women responsible for these reports will simply send their plates to Mr. C. W. Donglass, 18 Peking Road, Shanghai, with a brief note telling him what they are, they will be carefully preserved and returned to their owners after being used in the JOURNAL. The JOURNAL will be glad to pay any charges for postage on such plates. The editor has to thank Mr. Donglass for this most practical suggestion. It is hoped that all members of the Association, and others, will act upon it and thus add to the interest of the JOURNAL.

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The editor has received a note from Dr. Hodge taking exception to the criticism in the last number of the JOURNAL of his rule never to undertake the treatment of trachoma unless the patient could come into hospital for six weeks. The editor would be very sorry if anything he has written should be construed as a personal criticism of Dr. Hodge, for whose medical knowledge and skill he has a profound respect. The criticism was meant to be merely a protest against the adoption of such a rule for all hospitals, or for general use in China. No doubt in Hankow there may be abundant reason for such a rule, and it was of practice in Hankow that Dr. Hodge was writing, but here in the north such a rule would work great hardship and entail unnecessary suffering. The mistake was made, in the criticism referred to, of not noting that Dr. Hodge was detailing merely the practice in Hankow, not laying down general rules for the guidance of others.

\* \* \* \* \*

The readers of the JOURNAL will, we are sure, be grateful to Dr. Saville for the interesting article she has given them in this number on the siege in Peking, and for the statistics of the casualties in that remarkable siege with which her article closes. It was a most memor-

able occasion, and we are glad Dr. Saville has thus put on record the medical aspects of the siege from the point of view of one who took an active part in it.

\* \* \* \* \*

The editor is most happy to be able to announce that Dr. Booth, of Hankow, has consented to act as an associate editor of the JOURNAL, taking charge of the medical part of "Progress," and Mrs. Kilborn, M.D., has undertaken to do the same for the department of "Gynecology and Obstetrics." Dr. Booth's duties will begin with the April number.



### *Alcohol and Infection.*

Whether alcohol increases our susceptibility to infection or not is a question of great importance, but one on which comparatively little work has been done. So far as experiments which have been made on animals go, it would seem that alcohol, like certain other substances such as chloral, carbonic acid, etc., does render the consumer more liable to fall a victim to the germs of infectious diseases, and this view is supported by clinical experience in the tropics and elsewhere. Seeing that brandy and other alcoholic stimulants are frequently given to patients suffering from infectious diseases the question presents itself whether we are helping the disease or the patient most by their exhibition. Dr. Laitinen has recently experimented on no fewer than 342 animals—dogs, rabbits, guinea-pigs, fowls, and pigeons—with a view to settling the question. As infecting agents cultivations of the anthrax, tubercle, and diphtheria bacilli were employed. These were chosen as types of acute infection, chronic infection, and a pure intoxication. The alcohol employed was, as a rule, a 25 per cent solution of ethylic alcohol in water. In greater strength the alimentary mucous membrane of the birds became inflamed. Some of the dogs had 50 per cent solutions. It was given either by œsophageal catheter or by dropping it into the mouth from a pipette. The dose varied with the animal and its weight from  $1\frac{1}{2}$  c.cm. in the case of the pigeon to 60 c.cm. in that of some of the dogs. It was administered in several ways and for varying times; sometimes in single large doses, at others in gradually-increasing doses for months at a time in order to produce here an acute and there a chronic poisoning. A full account of these experiments is given in an elaborate series of tables to which we must refer the reader for details. Briefly, Dr. Laitinen found that in all these cases without exception the effect of the administration of alcohol, in any form whatever, was to render the animal distinctly, sometimes markedly, more susceptible to infection than were the controls.—*British Med. Journal.*

## Hospital Reports.

Only three hospitals have been heard from in addition to those reported on in the July and October issues of the JOURNAL. This makes a total of forty-three in all which have sent in statistics of their work during 1899.

One report for 1900 has reached us—that of St. Luke's Hospital in Shanghai—which is not included in the following table, but will be noticed later on.

### HOSPITAL STATISTICS FOR 1899.

Location.	Mission.	Physician.	Out-patients.			Country.	Homes.	In-Pat.	Oper.	
			New.	Old.	Total.					
Reported in July and Oct.—40 hospitals.			.....	.....	400,264	7,024	6,906	16,304	14,133	
Chingchow	E. B. M.	Watson.....	7,294	2,556	9,850	.....	283	211	.....	
Foochow	A.B.C.F.M.	Kinnear....	.....	.....	20,044	.....	.....	357	1,188	
"	"	Woodhull...	.....	.....	4,376	.....	547	190	.....	
Total of 43 hospitals and dispensaries...						434,534	7,024	7,736	17,062	15,321

#### **Ponasang Hospital, A. B. C. F. M., Foochow.**

Dr. Kinnear's report is unusually long and interesting, designed to awaken interest in, and secure support for, his work, among friends in America. The doctor in the early part of his report refers to what doubtless has struck every one who has practiced in China as one of the peculiar trials of medical missionary life, namely the strain of attendance upon one's associates, with whom he is thrown into such very intimate contact. He says:—

"An unusual amount of sickness among the missionaries has demanded much time and strength, especially during the hot summer months. No work that we do is important as this, and it seems to take a much greater amount of strength than the ordinary routine work. On the mission field where we are all as brothers and sisters, in the oneness of our interest and our mutual dependence, there is something akin to the feeling which comes to a physician when obliged to minister to the ailments of his own family,

making one feel the burdens of another more keenly, perhaps, than under any other circumstances. So it is that the care of one's fellow-missionaries or their families during sickness, brings a stress of its own on account of the sympathy and anxiety that the physician cannot but feel, and means more of care here than in a general practice in the home-lands. This is aside from the fact that illnesses that would usually be quite tractable if we had our foreign patients in the temperate climates in which they were born, become much more intractable here, where the anæmia incident to the climate, a substratum of malarial infection, and the tendency to serious digestive disturbances, make otherwise simple diseases the starting points for dangerous break-downs."

Again the doctor touches on another little trial of our daily work which, as put in the following extract will, no doubt, awaken a responsive echo in the hearts of many of us who have experienced the same difficulties in dealing with out-patients.

"The Foochow people are garrulous

to an extreme. Anything of importance is repeated in ten or a dozen different forms; each time with an increased volume of voice, until the speaker might be presumed to be addressing deaf people, whose intelligence was below par. So accustomed are they to these vigorous and crude methods of receiving and imparting ideas, that a quietly spoken sentence from the student, giving directions about the use of medicines, makes no apparent impression the first few times it is repeated, perhaps not at all until it is fired at the hearer as from a Krupp gun, then the patient sometimes concludes that the speaker meant just what he said. Then again the ill-mannered insistence of some who want more medicine because they come from a distance, because the affected area is large, because their sickness is severe and they want to take larger doses, or because they are Christians, or want medicines, on their own hazy diagnosis, for cases which we have not seen; people, to whom "No" is an encouragement, to whom "Impossible" means only hesitancy, to whom the rules of the hospital are of no account,—all this is not easy to deal with in a quiet way, especially when a heavy day's work is pressing."

In regard to the difficulties and successes in the way of aseptic surgery the report says:—

"The quality of the surgical work done during the year has been better than ever before; successful aseptic operating having been done more frequently than ever. The difficulty of making the field of operation clean

in skins with thickened epidermis seldom removed by washing, the dirty habits of the patients, their persistence in meddling with dressings, the ubiquitous vermin, the difficulty of making the students and assistants careful in carrying out the details of aseptic surgical technique,—all combine to make perfect cleanliness almost unattainable. But we have been successful often enough to make the extra effort well worth while. Some of the cases in which aseptic methods were used, are given in the remarks."

The report closes with a number of interesting notes on surgical cases, which lack of space forbids our quoting.

### **St. Luke's Hospital, Shanghai.**

This hospital, under the care of Drs. Boone

and Gates, of the American Church Mission, reports the usual amount of good work done during the year ending the 15th September, 1900. Dr Gates is now at home for a much-needed rest and change, and in her absence Dr. Boone reports for both departments of the hospital—men's and women's. The statistics of the men's department show that there were in all 21,087 attendances at the out-patient dispensary and 657 in-patients; while in the women's department there were 9,831 out-patient attendances, and 249 in-patients, beside 180 visits paid to patients in their homes. Venerable Archdeacon Thomson has had charge of the religious work of the hospital during the year.



## Refugee Experiences.

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### ESCAPE OF IRISH PRESBYTERIANS FROM MANCHURIA.

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By DR. J. R. GILLESPIE.

Last June the following missionaries of the Irish Presbyterian Church were living in Kw'an-ch'eng-tzu, a city of about 90,000 inhabitants, situated about 300 miles north of Newchwang and 80 miles west of Kirin: R. J. Gordon, M.A., M.B., Mrs. Gordon and five children; Rev. A. Weir; and J. R. Gillespie, M.A., M.B., and Mrs. Gillespie.

In the latter part of the month "Boxer" agents began practising on the street; and even, it was said, in the yamên. Placards also were posted in the streets urging the expulsion of the foreigners—a thing unprecedented in Kw'an-ch'eng-tzu.

Dr. Gordon, who on account of medical services rendered to his wife and his brother, was on friendly terms with the mandarin, sent him a copy of an anti-foreign placard.

The mandarin responded by issuing a proclamation threatening imprisonment to those who should speak ill of foreigners or circulate placards hostile to them. The placards ceased, but there were still unpleasant rumours going about, to which weight was given by the daily rise in the price of silver and a steady diminution in the number of hospital patients. On 29th June two letters arrived: one from Newchwang telling us that the Chin-chow and Kwang-ning missionaries had had to leave their stations, and were already in the port; the other from K'ai-yüan—400 *li* south of us—saying that the missionaries there were on the point of leaving for Newchwang. Next day a telegraph office was newly opened in our city, and we took advantage of it to send messages to Newchwang and Kirin asking for information.

The Kirin reply came in the following evening—in German as a precaution. It said that the missionaries there were going that night under cover of darkness to the Russian settlement and were to leave next day on a river steamer, en route for Harpin.

We decided to follow them, and were busy next day packing when the Newchwang reply arrived. It said: "Moukden houses, churches, hospitals burnt; go north."

The Russians kindly promised us an escort of two Cossacks to Lao-sha-kou, a newly-arisen town on the river Sungari, from which we could get by rail to Harpin.

We informed the civil and the military magistrates of our intended departure and entrusted our property to their care. They promised to send soldiers twice a day to see that our property was not molested, and sent a guard of six soldiers with us to Lao-cha-kou.

We set out in carts at 7 a.m. on Tuesday, 3rd July. Quite a number of the Christians came to see us off, and a good many of them accompanied us as far as the Russian settlement, about 10 *li*. After a little delay there we set out with our curious guard of two Cossacks and six Chinese soldiers.

At first we kept along close by the railway bank, at which work was going on as usual. At midday we stopped at a Russian settlement and took our midday meal in the open air in a little grove of fruit trees.

The Chinese soldiers and carters did not like this, however, as their wants are more readily supplied at a Chinese inn. Accordingly at the first opportunity they insisted on going off on to the Chinese road; and the Cossacks, who had orders not to leave the railway route, left us, and we saw them no more.

From this point we kept to the Chinese road and stayed at Chinese inns at night, but without meeting with any incivility. Our Chinese escort was polite and obliging, helping to carry things into the inns for us, etc. Our first day's journey was so uneventful that Dr. Gordon was disposed to go back to Kw'an-ch'eng-tzu next day. Had he done so he would have arrived on the eve of a battle between the Russians and the Chinese.

On the evening of our third day out we arrived at Lao-sha-kou, where we were made comfortable by a Russian captain, whose child had been treated medically by Dr. Gordon some months before. Here we found that our Kirin friends had only arrived the same day, having been delayed by their steamer getting on sandbanks; the river being low at the time.

The missionary contingent from Kirin consisted of J. A. Greig, F.R.C.S.E., and Mrs. Greig; Revs. A. R. Crawford, M.A., and W. Miskelly, M.A.; D. L. Fisher, M.B., Mrs. Fisher, and baby, all of the Irish Presbyterian Mission; and Mr. and Mrs. Drysdale, of the British and Foreign Bible Society with their two children. Besides these all the Russian women and children had been sent off from Kirin, so that the little steamer was crowded, and each passenger had been limited to twenty pounds of luggage.

Next morning we were taken across the Sungari in a steamer and got on board a train, which started about 1.30 p.m. We shared with Mrs. Daniells, wife of the chief engineer at Kirin, the only passenger carriage there was, a third class one. The rest of the Russians were in covered waggons, and there were in addition large numbers of Chinese on open waggons. We reached Harbin about 8.30 p.m., and were allowed to sleep in the train all night.

Next morning we went and established ourselves in a Chinese inn close to the station, but the Russians did not consider this a safe place, as it was

outside their settlement. They put their school at our disposal, as the school had broken up. Here the ladies and children occupied one large room and the gentlemen another. We had meals in a hall between the two rooms; two meals a day were sent gratis from a neighbouring hotel; the rest we were easily able to provide for ourselves. We were just about settled in the school on Saturday afternoon, 7th July, when some of our party met Dr. Muir, of the U. P. Mission, who had just come in from Ashiho, his station, to get news; having received a warning letter from Kai-yüan. Ashiho was within easy reach of Harpin, being a station on the railway. We had arranged that two of our number should go out and bring the missionaries in, but when Dr. Muir turned up this was unnecessary. Rev. Mr. Miskelly, however, accompanied Dr. Muir next morning to render assistance.

Large numbers of Chinese soldiers had assembled at Ashiho, and it was felt that the greatest expedition should be used.

On arrival they found Rev. Mr. Robertson preaching. They went into the chapel and sat till the service was over, but managed to slip a note to the preacher, with the news that they must all leave at once. As soon as the congregation was dismissed, a hurried consultation was held, carts were procured, and a few things hastily packed. The whole party, consisting of Rev. D. and Mrs. Robertson, Rev. Mr. M'Intyre and Dr., Mrs., and baby Muir, reached Harpin safe that night. Meanwhile things began to appear threatening in Harpin. We were told that the Chinese had attacked the Russian settlement at Kw'an-ch'eng-tzu, two days after our departure, and that the Mission houses there were burned. The Russians decided to send their own women and children all away, down the Sungari. They very kindly allowed us to travel in one of the four barges. We got on a train on Tuesday morning, 10th July, and went down in open trucks to the river bank, considerably more than an hour's ride on a slow train. Here we were discharged with our luggage on to the wharf about 12.30 p.m., and had to wait in a broiling sun till about 5.30 p.m. while a load of barrels containing what looked like plaster of Paris, was being discharged. As soon as the cargo was off we had to get on board.

Ours was a large barge built of iron plates. The hold was divided into six sections, of which our party, twenty-seven persons, had one to sleep in. We were lashed alongside another barge, and towed by a stern paddle steamer, the *Blagovesensk*.

We had a very uneventful voyage, lasting a little over four days. It was feared we might be fired on at the San-shing (Chinese) forts, but we were allowed to pass. There were a few cases of sickness on board, but not of an alarming nature.

On Saturday afternoon, 14th July, we passed fifteen steamers, mostly towing two or three barges each, going up with soldiers, guns, and horses to



the relief of Harpin, which was besieged a few days after we left. The same evening we arrived at Habarovsk, at the junction of the Amur with the Usuri. We were now out of Chinese territory, and thankful to have escaped without seeing any fighting or other horrors.

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## ESCAPE FROM HONAN.

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By Dr. G. W. GUINNESS.

At the beginning of July reports of the disturbed condition of the country began to arrive at our station. Prolonged drought had destroyed the prospects of a good harvest, and the people were in a restless condition, ready for anything in the way of uprising and excitement. They were incensed at the failure of all their prayers and rain processions; no rain had fallen. "It must be the foreigners' fault," they said, "let us get rid of them." Wild rumours were current everywhere, and finally we heard very definite threats of violence; no notice was taken, however, as wild talk is very common in China, and we did not want to be disturbed by it.

On Saturday, July 7th, a large party (Canadian Presbyterian) of foreigners, fleeing from the north, passed our station and sent a messenger to warn us of the danger and bid us make good our escape. The same evening two officials came to discuss the situation; they were evidently desirous of getting money, but not willing to do much to help. We wrote to the mandarin at Nan-iang-fu, and determined to wait for an escort.

The services next day were very well attended; in the afternoon crowds assembled to see the church members go home; a riot seemed imminent, but an influential man dispersed the people, and we locked the doors and packed a few things and prepared to leave. That night a few soldiers were stationed in front of the door, and we were left in peace, but dawn revealed the fact that the guard had gone. It was impossible to get away, because a vast crowd had assembled, evidently intent on riots. The packed boxes, together with a case of instruments and drugs and a camera were conveyed across a wall in the garden and placed in an out house in our neighbour's courtyard. By means of a ladder my companions (Mr. and Mrs. C. and Miss W. and a baby) and myself scaled the same wall and stood in this yard, not knowing which way to turn; our teacher was pale and nervous, and could offer no suggestion. The yells of the people and battering at our front door sounded ominous. He said: "You must hide; they are coming; it does not matter if you are killed, but I fear worse things may happen to you." "Come!" The landlord of the house appeared and led the way through his house to his guest hall. In one corner of the room was a ladder leading up to a loft overhead. "Hush, go up quickly and stay still."

It was a long room with five windows on one side ; dust and lumber plentifully scattered about, and there we lay hid, listening to the terrible shouts and yelling of the mob, the crash and falling of timber and masonry ; they had begun to riot in earnest. Two of the party were ladies, and one of these, Mrs. C., had been seriously ill and was very weak. The month-old baby required food. The mother had tasted nothing since the previous day, and it was quite impossible to get anything then. Should the child cry our whereabouts would be revealed, so it was all important to keep her quiet. We prayed in silence, and the Lord heard and kept the child still from dawn till dark.

It was very hot. The noise of the rioters increased as they neared us. Our house was in flames ; we could hear the crackling of the fire and see the smoke. Suddenly there was a rush ; the mob had traced us over the wall and across the court-yard, and into the room beneath they came. Every word was so distinct : "Kill the foreigners, smash up the house ; they must be here up this ladder. I will go up and see ; we have searched everywhere else and have not found them. I believe they are here ; let me go up." A brisk altercation ensued ; our friends trying to dissuade the searchers from ascending the ladder ; others urging them on.

Time after time they were driven off and as often returned to search. They clambered on to the roof and stared in at the windows. We stood flat against the wall between two windows, thus attempting to screen ourselves from sight. At last two boys saw us and spread the news. Back came the rioters.

"They are here ; they have been seen ; we will go up." It was an anxious moment, but God gave peace amid the anxiety. The landlord managed to bluff them off again, and after a long time of stamping and raging they went away ; so passed the hours of the day from 7 a.m. till 8 p.m. Darkness at length brought relief from strain ; the mob had gone, and we breathed more freely. A pot of Chinese tea was passed up through the floor, and the wearied mother could quench her thirst. Presently the landlord appeared white and trembling. "Don't delay," he said, "follow me ; they know you are here." His voice was almost gone. We quickly descended the ladder and again crossed the yard and passed into a granary situated on one side of it, immediately opposite the room where the boxes had been hidden in the morning.

At one side of the room stood an enormous basket of grain ; a stool was placed on this, and by its aid we clambered up through a trap-door into a loft above ; the stool was removed, the door shut down and all trace of our whereabouts was gone.

We were in a long room, dirty and quite devoid of furniture ; the rotting boards of the floor were covered plentifully with dirt and rubbish. The earth walls were cracked and split, a number of windows with bars of wood across

them, served to let in the light, and at one end an open but broken doorway, partly filled with earth bricks, afforded a splendid view of the whole room, with the exception of one corner. It was this corner that gave us a hiding place for the succeeding four days of riot. Thankful to have escaped thus far, we lay still on the floor and partook of a piece of bread and some native tea that Mr. Li (the landlord) had provided. The child still kept quiet. It was quite dark by now, and presently the trap-door lifted and Mr. Li emerged from below. He had come to tell us his plans for escape. We were to be disguised as far as possible and to leave at midnight and go to the house of a man named Uang, from whence a start could be made early in the morning by carts. This was agreed to, and about 11.45 p.m. we passed down through the trap door on to the grain and thence regained the ground floor, little knowing the danger that lay ahead had this plan succeeded.

Just at that moment a noise at the front caused us all to stand still ; a few minutes later the landlord came running back and said : "Quick, back to the loft ; the Pao-kia-kü has come to search the place." There was no time to be lost ; up on to the basket of grain we climbed, and once again, by aid of the stool, managed to ascend into the room above. The trap door was quietly let down, and I took my seat on it ; fortunately the child did not cry.

With short, sharp orders the Pao-kia-kü official ordered his soldiers to search the place. It was not long before the boxes, camera, etc., hidden in the morning, were discovered ; these were promptly removed.

Having cleared them away they returned to thoroughly investigate the whole place. "What is here?" "My grain," answered Mr. Li. "The door is locked ; I must get in." Here (to his soldiers), "break open the door." A blow from a heavy pole followed, and we heard the official enter the granary beneath us. "What does this mean ; a stool on a pile of grain just beneath a trap door. Who is up there ? Search and see !"

Silently we prayed, and God heard ; a voice said : "Only women up there." Already the trap door had begun to lift. "Only women" oh ! the door was dropped, and we heard them departing ; three times they returned to the search and as often left again ; we realized in a new way that God is a hearer and answerer of prayer.

They stationed two soldiers below, so that all escape for that night was impossible. Subsequently we found out that had the plan of going to Uang's house succeeded, none of us might ever have got away alive, so that what seemed to us disaster was really our salvation.

All too quickly the remaining hours of darkness passed ; brief snatches of sleep were seized by some, others listened to the conversation of the soldiers below ; morning dawned and revealed us to each other covered with dust from the floor and cobwebs from the wall ; the month old baby lay asleep by her mother ; little sleep and lack of food was an ill-preparation for

the day of riot that was to follow, but "as thy day so shall thy strength be" was not to fail. Very early in the morning the rioters came back to their work to finally demolish the remaining portions of the gospel hall. A very thorough search was made for the foreigner. Yells and blows resounded on all sides; time after time we could only lie hiding our faces in the dust and praying as the sounds of the rioters overhead made the room shake. They smashed the tiles and danced on the roof and tried to look in at the windows and broken door. "Where are the foreign devils; kill them, kill them." Towards evening the sound of rioting diminished; they were going to their homes. I looked through a window into the court below and saw two men piling wood and straw and dried grass round the house. "We will burn them out and kill them as they run;" the voice was low, and I could not be quite sure what was said; was this then to be the end? The ladies knew nothing of this, and we did not tell them.

The house was not burned, however, and another night came on, and with it a chance to get a little food through the trap door.

Wednesday and Thursday were thus passed in the loft. Every night fresh plans of escape were devised, but could not be carried out; one evening the ladies were to have been conveyed away from the city in water butts, and we, disguised, were to walk with them. The butts proved too small, and could not be used. The attempt to let us down over the city-wall with ropes they said would prove futile; the wall was too carefully guarded. The city gates were closed, with the exception of two, which were jealously watched. "Would we dress up as soldiers and escort the ladies on horse-back?" "No! the risk was too great. Travellers were being continually robbed and killed." At last hope of an escort of soldiers cheered our hearts; 100 or 200 Taels was to be given, and for this sum an escort provided to Fan-ch'eng. The time of starting was settled, and we fully expected to get away. But all hopes were doomed to disappointment; the escort refused to go for less than Tls. 500, and even then would accompany us for only a distance of 90 *li*. So hope alternated with disappointment, and every day fear of discovery was added to the strain and trial of imprisonment; bands of searchers kept coming and trying to see into the room. At midday on Thursday Mr. Li suddenly appeared and said: "Fly! the Pao-kia-kü has come with swords to kill you." In two minutes all had dropped through the trap-door, crossed the yard, and scaled the wall and were back in the devastated remains of our old garden. The sun was blazing hot, and no one had protection for the head. The infant began to cry, and we thought that all was over. Apart from God we were helpless.

Not many minutes later a man followed across the wall; it was impossible to avoid discovery; we lay still!

"Come back," he said, "they have gone." "It is all right!" The revulsion of feeling can be better imagined than expressed.

On the evening of the fifth day after the riot rain fell, and afforded the opportunity required to escape to another house. An excited crowd of servants and assistants waited below to disguise us all and lead us forth one by one in the darkness and rain. After a ten minutes' walk we reached a large business firm, and were conducted to the back of the building and hidden in a strong room at the top of the house.

The room was small and dark with one window in it eighteen inches high and a door-way without door. A bed on one side afforded a resting place for the ladies, and we managed to put up a portion of curtain, and C. and myself lay on a rug on the stone floor.

Every day hope of escape seemed farther off. The city was in ferment. Rioters, robbers, and a society similar to that of the Boxers were continually fighting, and the chief man of the firm protecting us went out night by night to guard the city. Besides a gun and sword he carried two short heavy-pointed iron pins rather like a cold chisel in shape. These were inserted into his belt. He said he could throw these weapons with accuracy for ten or twenty yards and strike a man in the eye and kill him. A silent, taciturn man, he rarely spoke, but evidently a man of power, and as such feared and respected by others. Twelve days were spent under his protection, and none of us suffered any violence, but the intense heat and confinement was proving very trying. Two out of the party became ill. One evening the chief partner in the firm appeared and said: "To-morrow morning carts will be in readiness at dawn; prepare to leave." Before daylight we crossed the court-yard in silence, careful not to wake the many men who were sleeping there.

Then an awkward delay of forty minutes waiting for the cart, proved trying, because every minute it was getting lighter. Eventually two carts arrived, and we started just before the sun was up. Ten minutes more were spent at the city gate. A bribe of 1,000 cash per cart had to be given, and we got through without being seen; our landlord sitting in front and screening us from view.

Eight *li* from the city a small boat was waiting, into which we crept, and with an escort of four men, started down stream. Passing the customs proved difficult and anxious work. The officials came on board and thoroughly searched our cabin, but never once of the twelve or more times we were examined did they discover the foreigner. Had they found us our lives would not have been worth much.

The escort and ourselves lived in the one cabin for thirteen days until Hankow was reached in safety.

Here it was their turn to be frightened; they had never seen such large vessels as lay in the Yang-tse, and were only too glad so start back with the Tls. 300 (taels) which was the reward for bringing us through in safety.

Thus thirty days after our station was destroyed we reached Hankow, ragged and dirty with clothing that had been lived in day and night for a month, but very thankful to have been brought through in safety by "one who never leaves and never forsakes those who put their trust in Him."

*China Inland Mission, Chefoo.*

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## ACCOUNT OF THE TSAO-SHIH RIOT, JUNE 14, 1900.

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By EDWARD F. WILLS, M.R.C.M.

Thursday morning, June 14, was to be the occasion of an idol procession (t'en-fu-huei) (符). Some days previously theatricals had been going on, but we were all quiet and feared nothing; in fact, Mr. Robertson (my colleague) left for a country round, feeling that we were all as normal as could be.

Patients came as usual, and the previous day I saw sixty out-patients and had three operations waiting for this Thursday. On Thursday morning I went to hospital prayers, and found the streets crammed, but the remarks didn't seem worse than usual.

I found out that the procession had been advertised all over the country for days, and as a result thousands of country people came in to see it. Then for three days the gong beater went round announcing 'foreign fireworks' for Thursday evening (no one dreamt of house burning).

Thursday morning the crowd wanted to see the foreign house; when I refused because of the crowd, they knocked the door in and threw stones.

The nearest yamên was sixty *li* away; messengers to the "pao-chia-chü," etc., had no effect; evidently the plan was, to get up a huge crowd and under cover of it pull down the house; hence all the advertising. The instigators were very few and the secret was well kept, so that many were very surprised. From nine o'clock the battering and stoning got worse. Official help was refused. Then as the cordon got drawn closer and closer I had simply to sit and wait, and to pass the time did some Mencius.

There was nothing to do, and if I appeared at a window, stones simply poured in and yelling became very emphatic. Finally I concluded that this was not mere horse-play but a dead set on us. Having come to that conclusion, what next?

I felt that I had not come there on my own accord or on my own business and wondered how God would open the way. A thunderstorm might have done it, but no rain was near. So the text on my wall, which has been my guide for two years, still seemed the only one. "It is good that a man both hope and quietly wait for the salvation of the Lord." So I waited and got through more Mencius, because the great danger was getting in front

of God's plan. As for the Christians and servants they stuck to their posts like heroes, and not one failed; they were in terror, but never budged, and a non-baptised cook was as good as anyone. One—a poor ignorant water carrier—who once told me that Jesus never had a flesh body as He was a spirit, was outside begging the rioters not to burst in the door, and got his nose smashed and scalp cut for his trouble. So his lack of a clear theology didn't prevent his being ready to make a living sacrifice. Finally the rioters burst in a door and came into the garden; and when I appeared stones and yells went like anything. Taking my hat and umbrella I left by the front gate into the street, being led by the cook and hospital (senior) assistant. As the rioters entered the south gate of the garden I left by the north gate; here the crowd were mere spectators and somehow never saw us. Where I was going I had no idea, but a next door neighbour's (an old rectal abscess friend) door was open, and in the doorway an altar and idols in honour of the 天符; we went in, and for some time sat in their study; then that got too hot, as people were looking for me. I was led next door through a back way, and then we all separated, each for himself, as we had come to land's end; crowds being on every side.

I got up into an attic, got a basket big enough for a man to curl up into, put it in as prominent a place as possible, got in and covered it over with a basket tray. I sat there three hours listening to the Mission house coming down in big thuds and hearing searchers below being led on wrong tracks by the women of the house, and being kept out by every imaginable lie and threats of all kinds. Then the crowd threatened to pull down and burn the house I was in, but were restrained by the presence of a God they didn't know. Then the crowd dispersed, Christians crept up to my hiding place and the host sent up dinner and tea.

We made a funny circle up there in the twilight; very drawn and shy pale faces the Christians had, as, while I was in peace in my basket—veritably in a hole in a rock—they were being threatened and chased and had to watch the house being torn down, and burnt the hospital and chapel and everyone of our adopted native houses torn to pieces.

However we all prayed for their forgiveness and thanked God for our lives. By night time it was all quiet, so I left dressed in native clothes by boat to Hankow.

I had sent a special messenger early in the day to warn Mr. Robertson, who was some fifteen miles off; and also Hsiao-kau, our next station, in case the trouble spread.

As the broken-nosed Christian said, "Thanks to the grace of God the door is now open in Tsao-shih," and we all think there are great times awaiting us.

We are daily (and have been for some weeks) expecting yamên men down to escort us officially back.

*London Mission, Hankow.*

## MY ESCAPE FROM HUNAN.

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Dy Dr. FRANK A. KELLER.

In the spring of 1899 some of the gentry engaged the men of a large neighboring village to loot our landlord's premises, hoping in this indirect way to force us out of his shop and prevent others from renting to us. The Cheo had given them permission to do this, under the condition that they would not loot the foreigners.

Once started, the mob took things in their own hands, and in spite of promises, after looting our landlord's shop, came to us and gave us a "house warming," from which we barely escaped with our lives. By order of the Fu, the Cheo promised to compensate us for our losses, which were \$1,850, but said that it would be utterly impossible to settle the \$3,000 claim of our landlord.

Finally we told him that if he would settle in full with our landlord that we would release him from all claims and sign papers to that effect. To this he agreed at once and faithfully fulfilled his contract. This action on our part was blessed by God to the breaking down of prejudice, and a warm friendship sprang up between the Cheo's eldest son, Han Shao-ie, and myself. A few months later I was summoned to the Yamên early one Sabbath morning, and Han Shao-ie took me to the bedside of his wife, who was lying exhausted after three days of fruitless labor, while about her stood the native midwives in helpless despair. Labor was speedily terminated, and the lives of both mother and child were saved. Deep gratitude intensified the friendship, and thus God was raising up a man to protect us and help us escape from a place from which, humanly speaking, escape would have been impossible.

My last month in Hunan was made up of a series of deliverances. In most instances I did not even know of the danger until it was past, but God saw the danger and provided the way of escape.

On June 7th, I left Ch'a-ling-cheo for a long itineration; the following Sabbath preached at the L. M. S. chapel at Heng-shan-hsien. I had hoped to go overland to visit some missionaries thirty *li* distant, but a heavy storm prevented, and I went on by boat to Siang-t'an. A few days later both stations at Heng-shan were rioted; my friends were in great peril, and barely escaped, without saving anything. While asking God about going on to Heng-cheo-fu I became convinced that it was not His will; by yielding to Him a strong desire to take this trip I escaped from the awful riot in Heng-cheo, in which both L. M. S. and Catholic stations were destroyed and three Italian priests were killed, horribly mutilated and finally burned.

I was at Siang-t'an several days; everything seemed quiet and the people very courteous.



The day before I left, the city was placarded, and on the following morning it seemed like another place; great crowds followed me as I walked down the broad street about five *li* to the ferry. Shouts of "beat" and "kill" filled the air, and some of the mob began to strike me. God raised up a friend for me; a man of evident power sprang to my side, shouted to the mob, "Don't strike him; he is leaving; isn't that enough for you? Let him go." This man staid by me all the way to the ferry, constantly holding back the crowd. The boatman promptly pushed off when I had jumped into the boat, and we got away under a shower of mud and stones. The next day the hall at which I had been staying was rioted and my friends escaped with serious injuries.

On my return to Cha-ling I found the city full of rumors. A prominent man named Tuan was circulating the report that a decree was coming from the Emperor ordering the killing of all foreigners, and that as soon as it came we were to be killed and all Christians with us.

The Cheo was in the country, so Han Shao-ie was in charge at the Yamên. As soon as he heard of these rumors hesummoned Mr. Tuan and several of the gentry to the Yamên, told them of the stories, and said that they would be held personally responsible in case of a riot.

For a few days it was more quiet, but soon news came of the Heng-cheo-fu, Heng-shan, and Siang-t'an riots, as well as hazy reports of trouble at Peking, and the people were all inflamed with excitement. Han Shao-ie came over to us and said that if we had important papers or other valuables he would like us to pack them up as quickly as possible, send them to the Yamên and then come ourselves, as he feared trouble. Soldiers patrolled the streets and guarded our hall. After two nights at the Yamên the excitement subsided somewhat, and we returned to our hall for a few days. On July 9th, a Yamên secretary was in an opium den and overheard two men talking over the details of a fully matured plan to burn our premises and kill us on that or the following night. The news was at once communicated to Han Shao-ie, and as soon as it was dusk he came to our hall, told us of the plot, and asked us to pack up all we wanted to save, send it to the Yamên and come ourselves by a different route. The military mandarin was out on horseback with a band of soldiers most of the night to disperse any crowds, and one man was given a severe beating on the public street as a warning to others.

Han Shao-ie and I had our meals together in a pretty little room which he had recently fitted up for himself and now generously gave up to me. Many of those engaged in the Heng-cheo-fu riot and massacre enlisted as soldiers. On the morning before we went to the Yamên they came through Ch'a-ling on their way to the coast "to kill the foreign devils," they said.

They asked, "Have you any here?" "Yes," the people said. "Well, why don't you kill them? We have killed them all at Heng-cheo-fu; they are being killed all over China, and you are silly enough to let them live; give us a leader to take us to their hall and we will do the job for you."

God kept them from finding any one bold enough to lead the party, and they went on with the words, "There will be another party of a couple hundred men along in a day or two; get all your plans made and they will help you." When Han Shao-ie heard this he promptly sent messengers with letters to the commanders of the approaching braves, exhorting them to pass the city as rapidly as possible and not to allow this inflammatory talk. The second day at the Yamên, Han Shao-ie could not eat; he looked pale and worn; he would come in and sit for a few moments, say very little and then go out. In the evening he came to me and said, "I am in sore perplexity; what shall I do?" In response to inquiries he finally told me of the Empress-Dowager's decree for the destruction of foreigners, and said that the recently deposed Viceroy T'an, of Kuang-tung and Kuang-si, then at Chang-sha, capital of Hunan, had sent the text of the decree by a relative to the large school at Cha-ling, where there were about 200 students, and the head of the school bitterly anti-foreign. He feared a general uprising, and that having only a mere handful of soldiers, the Yamên would be pulled down, and his aged father, together with himself and family as well as ourselves would be killed. After a long talk I told him it did not matter to me where I died, but that I wanted to save the lives of his father and himself and so would go. A few days before he had shrewdly taken into the Yamên employ the head of the Kao-lao-huei in Cha-ling, and detailed him with a little band of soldiers in citizens' dress to watch our hall and keep a general outlook for suspicious characters in the city. This man Han Shao-ie put in command of the soldiers sent to escort us to Kih-an-fu in Kiangsi, and a more faithful, courteous, efficient escort one could not have desired.

We packed up a few things, and a little after midnight started. The first day was an almost uninterrupted tirade of threats and curses; several times my chair bearers almost sank to the ground out of fright, as mobs gathered and threatened to kill them with me. The third night we were followed by a band of robbers, who tried to make a detour and hold us up at a certain place in the road where we would have been at their mercy; a terrific thunderstorm came on, and we passed the place before they reached it. Two weeks later we arrived at Kih-an. On August 18th, we started from Kih-an by boat via Kiukiang for Shanghai, where we arrived safely August 31st. A few days later word came to us of a riot at Kih-an and the destruction of the Catholic buildings there. Once more God had led us away just in time; to Him be all the praise and glory.

*China Inland Mission, Chefoo.*

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## In Memoriam.

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DR. MARY BROWN.

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By CHARLES F. JOHNSON, M.D.

The subject of this sketch, Dr. Mary Brown was born January 14th, 1864, at Esquesing, Ont. She received her early education in the public schools of Ontario, and later graduated from the Farrand Training School for Nurses at Detroit and in medicine from the University of Michigan at Ann Arbor.

She was appointed a medical missionary by the Presbyterian Board of Foreign Missions December 3rd, 1888, and sailed from San Francisco October 17th, 1889, to join the Shantung Mission, North China.

The writer's acquaintance with Dr. Brown began just previous to the date of her sailing for China. We have been travelling companions by sea and land, by rail, by cart, and by wheelbarrow; we have been associated together professionally and socially—she being a member of our family the first year of our life in China—and always and under all circumstances she was the same attractive, loving, and lovable Christian woman and earnest faithful physician.

Coming to China in the prime of youth, with good health, energetic and ambitious, with a strong love of, and pride in, her profession, and with a most earnest longing to bring healing also to the sin sick souls, and a knowledge of the higher life to the ignorant and downtrodden among whom she was to work, it seemed that her's would be a long and useful life spent in and for China.

A life work, however, is not always measured by years and perhaps in the records above her life work is as complete as many another of much longer duration. Of this much at least all those who knew her will testify that so much as she was permitted to do was well done. Painstaking and conscientious in the extreme her main thought seemed to be how best to do the work put into her hand to do. Every opportunity which offered of ministering either to the physical or spiritual needs of those who came to her for help was eagerly seized and most faithfully used. The words of the Master to John Baptist are as applicable to her work as they were to that of the Great Physician Himself: "The blind receive their sight, the lame walk, the deaf hear, and the poor have the gospel preached to them."

Immediately on her arrival in China she was appointed to the Wei-hsien station, where she arrived December 20th, 1889. She with her colleague, Dr. Madge Dickson, now Mrs. R. M. Mateer, were the first lady physicians to do regular medical work in Shantung province.

A new hospital and dispensary had just been built at Wei-hsien, and before she had spent nearly her allotted time in study the patients were

crowding upon her. She very soon had a wide reputation both as physician and surgeon, and hundreds of women to-day owe their lives to her skillful use of the knife or to her prompt response to a medical call.

In addition to a large dispensary and hospital practice, she had frequent calls into the country to see patients in their homes. These numbered some years as many as 160, or an average of over three a week. When we remember that these calls often came from 60, 100, and even 150 *li* away and frequently involved an all night's ride in a Chinese cart over Chinese roads, we get an idea of what a tax they must have been on her strength.

No thought of refusing on account of the hardship involved ever seemed to occur to her. Many a time has she been known to start in the evening ride fifty or sixty *li* in a cart work two or three hours over a difficult obstetric case and return in the early morning to—after a few hours' rest—take up the regular dispensary and hospital work of the day. Wherever she went she was known and loved. She had a sunny smile and a pleasant word for all, and was always ready by word and deed to point her patients to the One "who healeth all thy diseases and who redeemeth thy life from destruction."

Dr. Brown believed in giving a medical education to Chinese girls where those were found who were willing and capable. She believed, however, that such students should support themselves, and she has the honor of having had the first entirely self-supporting medical class in her Mission in Shantung, if not in the province itself. Three bright, intelligent Christian Chinese women, her pupils, are now practising medicine; two in this province and one in Shansi.

For seven years, with but one or two short vacations, Dr. Brown continued her work in Wei-hsien, where in the autumn of 1896 she went home to America for a well-earned furlough.

While in America she spent several months in the University of Michigan, taking special work in obstetrics, in surgery, and in biology. She also responded cheerfully to the many calls made upon her for missionary addresses.

In December, 1897, she returned to China full of enthusiasm and courage. The writer saw her in San Francisco just before she sailed, and she spoke especially of how well she was and how much she looked forward to doing on her return.

It was not so to be however. In a letter received a few months after her return she said: "I find it much harder to become acclimatized this time than I did before."

She developed a chronic affection of the whole alimentary canal which baffled her own skill as well as that of the other physicians who were consulted. This so reduced her strength that in February, 1899, it was decided that her only chance for recovery lay in an immediate return to the United States.

There a year of rest and change, together with skillful treatment and careful nursing, had so far restored her health that she was appointed to return to China in August. In the early summer, however, a change for the worse again occurred, and she died at the hospital in Sarnia, Ont., August 14th, 1900.

That some one will be found to ably continue the work she began here in China, is undoubtedly true; but it will be hard indeed to find one who will fill the place she has occupied in the hearts of her friends, both foreign and Chinese.

It is the unanimous testimony of her colleagues that both as a physician and as a faithful Christian worker she had few equals and no superior.

*American Presbyterian Mission, Tsing-tau.*

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WILLIAM MILLAR WILSON, M.B., C.M., GLASGOW.

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By E. H. EDWARDS, M.B., Edin.

During my furlough in 1889-91 I was speaking to a well-known evangelist in Scotland as to the need of the late Mr. T. W. Pigott of a medical colleague. Mr. Scroggie (the evangelist) at once said: "I think I know just the man that would do. There is a Dr. Wilson now studying in Vienna who wishes to go to China as a medical missionary, but is in doubt as to which mission to join." The result was that Mr. Pigott and Dr. Wilson were put in communication with each other, and it was decided that Dr. Wilson should join Mr. Pigott in his work in China. I first met Dr. Wilson at Vancouver, B. C., on my way back to my field of labour in 1891. We crossed the Pacific together, and from Shanghai went on to Tientsin. Thence I had the pleasure of escorting him and his wife to T'ai-yuen-fu, where for some time they were our guests. From the first they both shewed themselves admirably fitted for work in China. The discomforts of travel (especially to new comers) they regarded very lightly. Both set to work at the language with a will, and were soon at home with the people. In 1892, while I was superintending the building of new premises and attending to the hospital and general work of the station, Dr. Wilson kindly came to my help and took over the whole charge of hospital and dispensary. Meanwhile he and Mr. Pigott had been looking about for a place to settle, and finally fixed upon Sheo-yang-hsien—about seventy miles to the east of T'ai-yuen-fu—as their field of labour. There for two or three years he worked with Mr. Pigott, but eventually joined the China Inland Mission and was stationed at P'ing-yang-fu in the south of Shansi. Early this summer he sent his wife and little one, who was sick, to T'ai-yuen-fu to be with their old friends, Mr. and Mrs. Farthing. Not long after they had left he himself developed

symptoms of dysentery, which gradually grew worse, and about June 19th, he left P'ing-yang-fu to join his wife at T'ai-yuen-fu. From P'ing-yao-hsien he wrote a letter to his colleague, Mr. Dryer, in which he says: "It's all a fog, but I think we are on the edge of a volcano," from which it will be seen that though everything was outwardly quiet he anticipated trouble. He left P'ing-yao on Monday, 25th, and as he neared T'ai-yuen-fu the rumours became more alarming. He, however, pushed on, and must have reached there on the 26th. The next day (27th) the hospital and premises belonging to what was known as the Sheo-yang Mission, were burnt, and Miss Coombs, one of the workers, killed. All the missionaries on that compound took refuge in the house of Mr. Farthing, of the English Baptist Mission, and the last word so far to hand from the little band is a letter written by Dr. Wilson on July 6th. From that it will be seen that the missionaries evidently did not expect the worst, but we know now that on July 9th, the Governor Yü Hsien had them all brought to the front of his Yamên and there massacred. Among those who fell at the same time was Mr. Pigott, his former colleague, together with Mrs. Pigott and their little son Wellesley; so that, united for a time in their work for God, they were not separated in death. Under such circumstances as above eulogies seem quite out of place. Those who have fallen have already received their "well done" and entered into the joy of their Lord. In August last it was my privilege to visit Dr. Wilson's native place (Airdrie) in Scotland. There I heard much about him, for his memory was still fragrant. He had been converted as a lad in connection with a local evangelisation association, and at once took his stand as a Christian, helping in the open-air meetings, at which he often spoke. When pursuing his medical studies in Glasgow University he kept up his connection with his old associates in Christian work, and after his arrival in China he still communicated with them. On my visit in August last to Airdrie I had the privilege of speaking at the annual missionary meeting of the Association, and found a very true missionary spirit permeating all its members. At that time we only knew that all missionaries in Shansi were in danger. Little did we think that they had already won the martyr's crown. Dr. and Mrs. Wilson leave two bonnie boys in Scotland, but their youngest was "folded" with them. It should be mentioned that Dr. Wilson was in China at his own charges. May many more be raised up to take his place.

[Following is a copy of the last letter written by Dr. Wilson, so far as known. Dr. Edwards kindly furnished it to the JOURNAL.—ED.]

Letter translated from the German, written by Dr. W. Millar Wilson to Mr. Dryer. Dated T'ai-yuen-fu, July 6th, 1900:—

Mr. Lundgren's servant has arrived here, and we thought that it would be better to write a German rather than an English letter. On June 27th, the Schofield Memorial Hospital was burned down with all the other mission buildings. Dr. Lovitt, Messrs. Stokes and Simpson, with their wives and one foreign child and ten native school girls,

just escaped with their lives, but our dear Miss Coombs has gone home. The Christians who saw her say that she fell on the street while trying to escape. The people surrounded her and stoned her to death. The others reached Mr. Farthing's house and are all here. My wife and child are here also. Mrs. Saunders and his family we heard had reached Siao-tien-tsi, but when they received the news of the fire they were afraid to proceed and went instead to Lu-chêng-hsien. Mr. Pigott and his family we hope and think are staying in a village. Their house at Sheo-yang was destroyed but not burnt. The friends at Hsin-cheo (English Baptists) have left their houses and are hiding in the hills. To-day we heard that several were seen on their way south. We are not sure whether this refers to Mr. Saunders and party or not. (Note. Dr. Wilson then asks for certain medicines and instruments to be sent by the messenger, as two of the ladies were expecting an early confinement. These could not be sent.) I pray you send a verbal answer and not a written one, and forgive my many mistakes, as I have forgotten much of my German. I hope, however, you will be able to understand this letter."

With best wishes,

(Signed) W. MILLAR WILSON.

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ARNOLD E. LOVITT, M.R.C.S., ENG. ; L.R.C.P., LONDON.

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By E. H. EDWARDS, M.B., Edin.

A very peculiar interest attaches to my recollection of Dr. Lovitt, as in a sense he died in my place. He received his medical education at the medical college connected with the London Hospital. After taking his diplomas he acted for a year or so as resident physician to the Mildmay Hospital, London. It was while there that he became acquainted with Mr. Pigott, who was on furlough and whom I had asked to look out for a young medical man who would be willing to come out and take my place when I took my second furlough, which I hoped to do in 1900 or 1901. Dr. Lovitt joined us in T'ai-yuen-fu in the autumn of 1897. His wife was the daughter of Mr. Alexander Grant, who for many years was a missionary at Singapore and who spent only last winter with his daughter and her husband, leaving Shansi just before the great trouble began. Dr. and Mrs. Lovitt applied themselves to the language directly on arrival, and Dr. Lovitt was always ready to help in all the more serious operations. In fact the help which he so willingly gave greatly lightened my burdens. While very keen on good "cases" he never lost sight of the great object of the work of a medical missionary and took great interest in the evangelistic part of the work. Owing to failure in health I was reluctantly obliged to leave him sooner than I had intended. He had been in China only about eighteen months when I handed over to him all the medical work in the early spring of 1899. The evangelistic part was in the hands of Mr. Geo. W. Stokes, who, with his wife, was among those whom we so deeply lament. Mrs. Lovitt having been fully trained as a nurse at the London hospital was well able to second her husband's efforts and took charge of the routine work among the women. From the letters received from them

after we left, it was easy to see that they at once threw themselves heartily into the work and were alive to the responsibility resting upon them. It was a great joy to know that the work was carried on so efficiently.

One of his last letters to me contained an order for medical and surgical stores which were to carry him over the present winter, and he was looking forward to further useful and happy service when the storm burst upon them suddenly and unexpectedly; our hospital and compound was probably the first to be attacked, because though within the city walls it was on the outskirts of the houses and could be burnt without endangering the rest of the city. On the hospital and surrounding buildings being attacked, Dr. and Mrs. Lovitt escaped with the others, except Miss Coombs, to the house of Mr. Farthing. With all the others who had there taken refuge they with their little one were called to lay down their lives for His sake on that sad July 9th; though their term of service was short, we know that they have obtained the reward of the "faithful servant" and entered into the "joy of their Lord." Our hearts are still sore, and we mourn the loss of dearly loved friends and fellow-workers. Yet we are assured that He doeth all things well, and what we know not now we shall know hereafter.

May the sudden home call of our beloved brethren, Drs. Wilson and Lovitt, be God's voice to many young medical men at home, who shall be led to consecrate their lives to Him for work in China.

By A. GRANT.

Arnold E. Lovitt was born in or near London on 4th February, 1869; and so was in his 32nd year at the time of his unexpected death at the hands of the Governor of Shansi, understood to be 9th July.

His father is partner in the firm of Warren, Hall & Lovitt of Camden Town; and Arnold was not unnaturally drawn to a studious life; and finally the career of a medical missionary.

Having finished his course at London Hospital, and taken his qualification, he was for a time in charge of the Mildmay Hospital in Bethnal Green, under the superintendence of Dr. Gauld, formerly of China.

His desire was toward foreign missionary service, to which eventually he gave himself in connexion with the lamented Thos. W. Pigott, of the Sheo-yang mission.

On the essential question of his conversion to God, so far as the time and circumstances are concerned, the writer cannot speak definitely further than to state with joyfulness his conviction that Arnold had passed from death to life, and during the short period of our acquaintance lived a godly life in Christ Jesus.

During part of his preparatory course he may have been perhaps more or less influenced by what has been called the new theology, but after some



exercise of soul he was able to take his stand on the uncompromising truth of God, clear of the teachings of human wisdom.

Later on he enjoyed the clear gospel ministry of Mr. Archibald J. Brown, of the East London Tabernacle, with which he united himself, and from which he may be said to have gone forth to China. The commendatory prayer meeting previous to his departure was held in that building, where fervent effectual prayer had long been made.

In the autumn of 1897 he with his wife, the beloved daughter of the writer, left Southampton by the North German steamer *Preussen*, arriving in due course at Shanghai; thence to Tientsin by local steamer and from that to T'ai-yuen-fu by boat as far as Pao-ting-fu, now noted for blood of saints shed there, and then by road to their destination, a journey of six or eight days.

He commenced hospital work earlier than would have been in other circumstances desirable, as Dr. Edwards, who was conducting the work of the Schofield Memorial Hospital, was on the eve of returning to England in the spring of 1898. For a young worker to give the first six or twelve months of his time in China to the language, and especially to the study of the word of God in view of work in a heathen land, so as to adjust himself to his new position and learn all he can learn of the mind of God in reference to such service among idolators, would be advisable in ordinary circumstances. As events have turned out it is doubtless well that work was commenced at once.

Of his self-denying and painstaking labour in the trying and often repulsive work of the hospital, and also outside it, the writer had the privilege of being witness during over ten weeks in the dwelling of Dr. and Mrs. Lovitt last winter.

To his readiness to meet the frequent and sometimes unseasonable calls of patients, as well as to the assiduity and conscientious service of his beloved partner, also trained as a nurse at London Hospital, and to the faithful service in the gospel, whether his in the gatherings of the T'ai-yuen-fu English community, or hers among native women, thankful testimony is due.

The favourable impression produced by the long continued medical work in the city and region cannot be doubted, nor can it be questioned, but the massacre of the workers is regarded by the best of the inhabitants with sorrow and abhorrence.

The advent of a governor willing to carry out the exterminating edicts of the Empress-Dowager, issued, it is believed, on the taking of the Taku forts, led to the extinction of the band of workers in T'ai-yuen and elsewhere in Shansi.

What is done cannot be undone, but if the true gospel of the grace of God is more than ever declared in China in connection with these events, it will be well. Resurrection glory will finally crown all.

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## Correspondence.

**Medical  
Missionaries  
in Government  
Positions.**

lication :—

A FINE FIELD FOR MEDICAL MISSIONARIES.  
To the Editor of the *China Gazette*.

SIR,—A considerable number of medical men and trained nurses, connected with Protestant Missions in China have left the interior and have gone to Shanghai and from there to Japan to spend the summer. It would be interesting to know if any of these doctors or nurses have offered their services to the American and British forces in the field in the north, where their services, no doubt, would be invaluable.

Of course the missionaries' contention is that they came out to China to work amongst the Chinese, but as they were partly to blame for the present uprising, in a time like the present they would be doing their duty to God and man were they to go and administer to their sick countrymen who have been struck down by shot and shell in North China, instead of spending the summer at various seaside and mountain resorts in Japan.

Truly yours,  
CURIOUS.

HANKOW, 27th July, 1900.

REPLY.

S. S. Pioneer, PORT OF CHUNGKING, }  
September 21st, 1900. }

To the Editor of the *China Gazette*.

DEAR SIR,—Our mail arrived at this distant port on the Upper Yangtze only yesterday, and I find a query-note in "Correspondence" column, of the August 6th, 1900, issue by "Curious," which ought to be answered by one or more of our medical missionaries. I would tell Curious that there is no fear lest we be wanting in our duty in this present crisis in China. I know of several of my colleagues who have, through their various port Consuls (and with their recommendations), applied for posts at the seat of war. I beg to quote my own instance. When I had to close up my hospital and dispensary here at a few days' notice I thought of my lovely instruments in the operating room, and at once gave directions to my native hospital assistants to polish them up and refit them in their original home cases to go with me down river. I then repaired to our British

The following correspondence has been handed the JOURNAL by Dr. Wolfendale for publication :—

Consul for his help to enable me to get to the front with the least possible delay. This he granted most willingly, but as events have turned out his letter has not yet been used, but is still in my pocket. It has remained there because, as you all know, our S. S. Pioneer, now H. M. S. Pioneer, has made a most successful voyage to Ichang with nearly a hundred West China refugees on board. She has now a naval guard of ten blue-jackets on board and has returned to this port to patrol the Upper River and await further refugees. At Ichang I was asked to accompany the naval guard as surgeon and physician to it and to all on board, and needless to say the request was not refused. I could quote other instances of "helping" by the medical missionaries in this China's crisis, but the above is personal.

I beg to remain, yours very sincerely,

RICHARD WOLFENDALE,

L.R.C.P. and S., Edin.

London Mission Hospital.

**Nomenclature  
Committee. Its  
Need of Funds.**

The following letter was received after the Editorial on the above subject had been written. We would commend it to the careful consideration of those who have any money to spare :—

CHAO-CHOW-FU, SWATOW, }  
October 8th, 1900. }

To the Editor of the *C. M. M. J.*

DEAR DR. NEAL,—So far as I know the funds of the Association have not yet been drawn upon for the expenses incurred in connection with the work of the Association's committee on Medical Nomenclature. These expenses have, up till now, been extremely small, but the proposed meeting of that committee this winter in Shanghai to finally decide on a vocabulary of standard terms and the publication of this vocabulary will involve the spending of a considerable sum of money. I should think it extremely doubtful if the treasurer has any amount of surplus funds, and if this surmise is correct I beg to propose that the president and secretary shall raise a fund for the payment of expenses connected with the work of the Nomenclature Committee.

Yours very sincerely,

PHILIP B. COUSLAND.

Dr. Williams writes from Chinkiang: "You will be glad to hear that we have never had any cause to apprehend any disquiet here during the past summer, unless it was on one occasion of a midnight brawl caused by some soldiers passing through quarreling with the landlord of an opium den and withholding their payment. This was speedily suppressed by the local patrol. Of course there have been numerous threats, as well as groundless panic on one occasion among the foreigners, but our Heavenly Father has graciously kept us in peace throughout, so that Dr. Cox has been able to continue building operations all along in Yangchow, going up and down to help us as need required. I have been able to remain here without the loss of a single night's sleep, and the hospital has been available throughout, except for the usual month's rest in the hottest period. Confidence in us has remained good all along, but for a time the numbers coming to us fell off somewhat, but not to any great extent. We now have from seventy to eighty a day on the out-patient days, which is quite up to our standard number. We see out-patients only twice a week; our native work being really

an offshoot to this station, which is mainly worked as a sanatorium and local forwarding center."

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Dr. Wills writes from Hankow of a novel method of treating prolapse of the rectum in a child. The prolapse had been troubling the child for a week or more, the gut protruding about six inches. The doctor writes: "When I replaced it, it kept coming down, so I got a board which reached from the child's neck to its toes and tied this on behind to prevent the child bending its back, and as long as it kept in that position the gut didn't appear. It had a dose of castor oil and passed a copious motion on to a pad put between the board and the buttocks; and the gut seemed all right. Haven't heard from it since leaving the hospital."

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Dr. E. C. Smyth writes, after reading Dr. McClure's suggestion about treating scorpion stings by means of hypodermic injections of four per cent solution of cocain: "Scorpion, wasp, and other stings are immediately relieved by painting the affected part with *chloral hydrate* and *camphor* equal parts, which, when triturated together, form a clear liquid."



## Personal Notes and News Items.

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Dr. Mary Brown, of the American Presbyterian Mission, who for eight or nine years did such good work in Wei-hsien, Shantung, but who was compelled to return to America soon after getting back from her first furlough, died in Canada on August 14th, 1900. Her nephew writes as follows: "She died in the hospital at Sarnia, Ontario. She was conscious until the last, and suffered no pain. Her heart was in her work in China, and she was constantly looking forward to the time when she could return. She never regained her strength after she came home. Her health varied—sometimes better, sometimes worse. When she left here before going to Sarnia to visit her friend, Dr. Marian Headland, she seemed in good spirits. On leaving here that day her last words were full of hope and anticipation, as she felt she could go back to China quite safely. But we knew better. She fought hard for a renewal of her strength, and up to the last she expressed hope and would not give up. While in Sarnia she heard of a doctor who had been successful in treating a case like hers. He advised her to go to the hospital and take a course of treatment. She did not, however, improve; kidney disease and other complications being the source of her trouble."

Dr. Brown will be greatly missed in Shantung, especially in the region of Wei-hsien, where she did such eminently successful work, not only in the way of treating patients but also in the training of women medical students. A fellow-missionary who lived with Dr. Brown writes: "I can testify to the noble, beautiful consecration of her life to the work in China. Three Chinese girls are doing a grand work in China, because they learned med-

icine through Dr. Brown's teaching; they have performed difficult operations and have been sent for all around the country, so great is their reputation as skillful physicians. Dr. Brown also led many souls to Christ in her visitations among the sick in the hospital, and wherever I have visited in the country on my itinerating journeys the poor people have always asked me about Dr. Brown, and when she would come back, and tell me how good she was to them.

I remember stopping once at a village for a noon rest, and finding the inn crowded with heathen I told them the story of God's love for them. After talking a long while to them and finding very satisfactory results—the people believing my words and asking for more—I asked them if they had ever heard of the gospel before. A woman pushed her way through the crowd and said: 'I have heard of it at the hospital through Dr. Mary Brown,' and she said: 'I still pray the prayer she taught me,' and she repeated the simple prayer learned from our dear friend, who is now in heaven, wearing her richly deserved crown, which surely contains many bright stars won by her patient self-denying life for the women in China."

An interesting notice of Dr. Brown's life and work, by her warm friend, Dr. Johnson, will be found elsewhere.

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From the *Honan Refugee*, an interesting paper which appears in Chefoo at irregular intervals, we learn that a native messenger, who was sent to Honan to gather news of the Canadian Presbyterian Mission stations in that province, brought back the following information:—

"Ch'u-wang station has been pretty thoroughly destroyed. MacKenzie's and McClure's houses have been gutted of every vestige of timber, except the roof. Even the cross-pieces which support the wall above the windows and doors have been dug out. The iron roof still covers the former house, but the walls of the latter are falling down. The women's and men's dispensaries and chapels are in much the same dilapidated condition as the two residences. All the other buildings were more or less wrecked. No doubt the materials of all these buildings would have been carried away had it not been for the faithful guard kept over the yard by Captain Yang. But, when the messenger left, Yang was at the point of death from paralysis, and probably the town vandals will carry off all they want this winter. Our next neighbor was already driving a thriving business in brick, etc. Drugs and valuable instruments are of course scattered to the four winds or destroyed.

Until an official came from Yü Ch'ang, the governor, the loot was only sold secretly, but when he told the people it was quite right to loot the foreigners, our stuff became a regular article of commerce on the open market. Organ keys and reeds, sewing machine fixtures, etc., are sold as curios and play-things. Three reeds sell for one cent!

At Chang-tê some military officers occupy the foreign houses, but the buildings do not appear to have been much injured. The yard, however, has had a trench dug outside the wall, and on the inside the earth has been raised so as to make it a convenient height for a soldier to shoot out over the wall. Embrasures have been made in the wall, opposite which cannon have been planted. Mines have also been laid. Evidently they don't mean to give the place up without a struggle.

Dr. Hewett, of the China Inland Mission in Shansi, was one of the few who escaped from that ill-fated

province. For a long time it was feared that he had been murdered, but he at last turned up in Hankow, after a series of adventures of thrilling interest. Compelled to flee from his station, he hid for a month in the homes of the Christians near-by within thirty  $\frac{1}{2}$  of his house, but never spending more than three nights in one place. He went from place to place in the night, sometimes spending the whole night in thus tramping from one hiding place to another, until worn out by this continual wandering, and finding the Christians were tired of harboring him, he at last delivered himself up to the local official of his district and was incarcerated in the prison. Here he was confined for two months, being apparently fairly well treated, though constantly harassed with anxiety as to the outcome of the matter. Finally, early in October at his own urgent request he was furnished with a cart and started off toward Hankow. He was sent off, however, with a transport convict's certificate which subjected him to treatment as a convict and necessitated his lodging from place to place in the yamen prisons, and at times having for his travelling companions criminals of the lowest class. After twenty-six days of such uncomfortable travel he finally reached Hankow in safety.

A local branch of the China Medical Missionary Association has been organized in Chefoo; there being now nearly a dozen physicians in that port for the winter. The first regular meeting for the discussion of medical topics is planned for December 17th, at which Dr. McClure is appointed to read a paper on cataract, and others to collect various items of news of general interest to the members.

Dr. King, of the China Inland Mission in Chefoo, has gone to Japan for his health; his place in Chefoo being temporarily supplied by Drs. Keller and Guinness. Dr. Keller, in addition to his duties in connection with the native medical work, is

kindly giving clinical instruction to the class of eight medical students connected with the Presbyterian Mission.

We are very glad to report that the announcement in our last issue that Dr. Morley's hospital had been burned was a mistake. Dr. Morley, writing from Arima, Japan, November 19th says: "I am glad to be able to say that the report (of the destruction of the hospital) has been exaggerated. Before I left Teh-ngan some Hunan soldiers passed through the city on their way northwards. They behaved exceedingly well; many of them coming to look over the buildings. I was in the city until they had passed through, but shortly after I left another detachment arrived. They also wished to see the inside of the rather imposing structure, and for some time were quiet enough, but gradually got more rowdyish and began stealing and then fell to breaking windows. Although they were in the hospital for some three or four hours, nothing seems to have been damaged except glass and some articles of furniture, for as soon as they passed beyond control of the custodians the officials interfered, and I cannot but think that had a foreigner been there the whole thing would not have happened. We have a great deal to be thankful for that the officials Teh-ngan—and I may say throughout Hupeh—have done what they could to keep order. I am on the eve of returning to Teh-ngan, and expect almost at once to recommence work."

Dr. Edwards, to whom we owe the interesting notices of Drs. Wilson and Lovitt, which are found elsewhere, passed through Chefoo in November on his way to Tientsin and Peking. He was hoping to get a chance to accompany an expedition to Tai-yuan-fu, if such should be sent to that city by the Allies, so as to make inquiries on the spot about his friends who were murdered in that city. At last accounts Dr. Edwards was still in Tientsin pursuing his inquiries through

natives and awaiting the completion of the repairs on the railway to Peking.

Dr. J. A. Creasy Smith accompanied Dr. Edwards to the north.

Dr. Porter, of the American Board Mission in Shantung, passed through Chefoo early in December on his way home to America by way of Hong-kong, Singapore, and the southern route to Europe. The doctor has been out this term for some eleven or twelve years, and is somewhat broken in health, owing to the strain of the past months. He expects to visit the Philippine Islands on his way. Dr. Porter will be greatly missed in the coming meeting of the Committee on Medical Nomenclature, as he is one of the members of that committee who has done a large share of the work so far accomplished.

Dr. Cousland writes of his return to his station at Chao-chow-fu, near Swatow: "I came up last week. Called on the Tao, the Fu, and the Hsien, and they all paid return visits. This is a new departure for us. Formerly it is doubtful if our calls would have been returned. All is so quiet that my family may come up next week. This congregation has united with two others to call a minister, and yesterday he was inducted. He should prove a great help, as heretofore much of the congregational work has fallen on my assistant or myself, and the country work has not been looked after properly."

Dr. MacFarlane has opened a dispensary in the native city of Tientsin in a temple.

Dr. Inglis has returned home to America, after passing through the siege of Peking. His little girl died during their time of captivity.

Dr. Hodge has returned from Shanghai to his station at Hankow.

Since the editorial was written, in which Dr. Peill was referred to as

being still in government employ in Wei-hai-wei, it has been learned that he has resigned his position and has gone home to England.

Dr. J. Tilsley, notice of whose death has just reached us, was building a dwelling house adjoining a plot of ground on which he intended to build a hospital for medical missionary work at Nan-chang-fu, when the trouble broke out.

OFFICIAL NOTICE.

The following persons were elected

officers of the Association for the ensuing term :—

For President—Sidney R. Hodge, M.R.C.S., L.R.C.P., of Hankow.

For Vice-President—J. A. Otte, M.D., of Amoy.

For Secretary and Treasurer—Geo. A. Stuart, M.D., of Nanking.

For Curator of Museum—C. F. S. Lincoln, M.D., of Shanghai.

GEO. A. STUART, *Secretary*.

DEATH.

At Bath, October 28th, Dr. JOHN TILSLEY (Nan-chang-fu), from dysentery, the day after landing at Southampton, aged thirty-one years.

ARRIVAL.

September 29th, Dr. H. LOWRY, M. E. M., for Peking.

DEPARTURES.

September 1st, Dr. A. RENNISON, C. I. M., for U. S. A.

„ 8th, Dr. J. INGRAM, A. B. C. F. M., for U. S. A.

„ 14th, Dr. W. WILSON, C. I. M., for England.

„ 20th, Dr. A. PEILL, L. M. S., for England.

„ 29th, Dr. W. VENABLE, S. P. M., for U. S. A.

November 19th, Dr. LAWSON, C. I. M., for England.

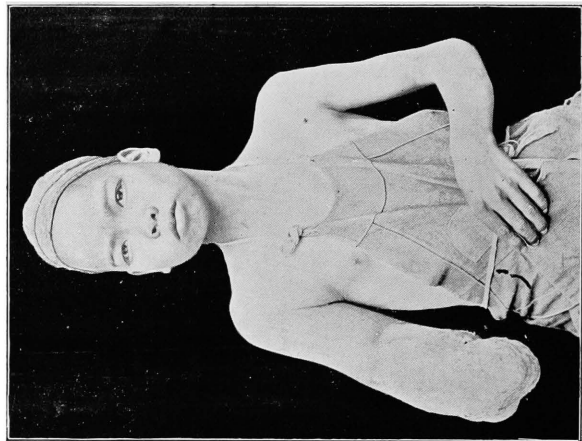
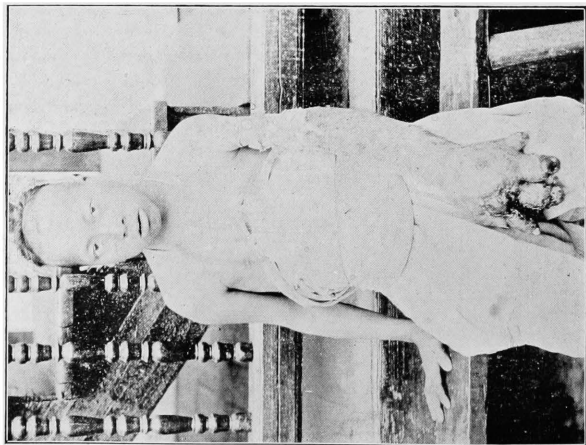
„ 21st, Dr. M. A. GLOSS, M. E. M., for U. S. A.

„ 28th, Dr. ROSE PALMBORG, S. D. B., for U. S. A.









TWO CASES OF SNAKE BITE.—See Page 119.

# The China Medical Missionary Journal.

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## Original Communications.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editor six weeks before date of publication to insure their appearance in the following number. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

### ON OPERATION IN APPENDICITIS.

By J. PRESTON MAXWELL, M.B., B.S., F.R.C.S.

The question of operation in cases of appendicitis is one which has always been a matter of difficulty to those concerned.

But when one finds a man like Osler using the following terms about his cases one cannot but rejoice from a surgeon's standpoint that the times have changed, for the operative treatment of general septic peritonitis is still a *forlorn* hope.

Here\* is what he says: "So impressed am I by the fact that we physicians lose lives by temporizing with certain cases of appendicitis, that I prefer, in hospital work, to have the suspected cases admitted directly to the surgical side."

I myself can look back to the days when operation was deferred until the patient's chances had well nigh vanished, or there was an immense abscess, whose cavity, after opening, took months to heal. And even now-a-days here lurks a secret tendency in many minds towards what is called "expectant treatment." And it is with the view of aiding others to make up their minds on the subject that I have penned these lines.

There is a class of cases where the pain is slight and lasts but a few hours, which may be deemed outside the province of the surgeon. But at any time these slight attacks may be followed by one which is more severe, and in my opinion any case which lasts over a few hours, or in which the pain is at all severe, should be regarded as a possible operation case.

Granted this point, what indications should lead us to take up the knife? Broadly speaking a *progressive or non-resolving lesion*.

\* Osler, Practice of Medicine, 1895, pp. 442.

If possible it is not good practice to operate before the fifth day of the disease, for the reason that nature has her own means of localizing the trouble by means of adhesions, which are of distinct advantage in surgical operations on the great bulk of cases that come to the operating table, viz., the suppurative ones.

The exceptions to this rule are two in number :—

(a) The first exception is when the attack is acute from the outset and the patient shows signs of commencing acute peritonitis.

I have seen such a case, where within the space of twelve hours the patient was suffering from acute general peritonitis and where death, in spite of operative interference, took place in less than thirty hours from the first symptoms of the disease. The appendix in this case was in a gangrenous condition.

(b) The second exception is the occurrence of a casualty which may happen not only within the first five days but at any time in the course of the disease, viz., the perforation of an abscess into the general peritoneal cavity. In the absence of opium the symptoms of this occurrence are clear and certain in at least 99 % of the cases.

A patient who may or may not be getting on well, is suddenly seized with acute pain and collapse. The pain may be referred to the umbilicus or the appendix region. This may pass on into general peritonitis without a remission, or the patient may actually die of the shock, but as a rule the symptoms pass away, to be followed a few hours later by the commencement of an acute general peritonitis, and this remission may easily mislead the doctor in charge, as in the following case :—

A young man was getting well of an ordinary attack of appendicitis and was sitting up in bed laughing and talking, when he was suddenly seized with intense pain in the abdomen and extreme collapse. He rallied in a short time; the symptoms passed off, and the gravity of the case was not realized. The acute general peritonitis began, and twenty-four hours later, when his abdomen was opened, the intestines were covered with lymph and the patient died shortly after the operation was completed.

In these two classes of cases the aim of the surgeon is not to deal with the result, except as a secondary matter. His primary purpose is to eradicate the focus of disease, as far as lies in his power, and to this end the operation for removal of the appendix should be at once carried out. In most cases it also involves the cleansing of the peritoneal cavity wholly or in part.

But we will suppose that we have arrived at the fifth day without either of these untoward occurrences, and our patient is either doing badly or standing still. It may be that the mass or resistance which can now be felt in the region of the appendix is increasing in size and the pulse rate is rising.

The temperature by the way is a very fallacious guide, and cannot be depended upon, but a rising pulse is a sure sign of progressive mischief.

In any case it is highly probably that there is a collection of pus or inflammatory material there and either at once or within the week an operation should be performed for its relief.

Fluctuation or superficial œdema are very late signs, and ones that must on no account be waited for, and although the selection of the right day is a matter which must be left to the discretion of the surgeon in charge, it may be borne in mind that for every case that is operated upon too early, five or six are operated upon too late, as regards the rapid clearing up of the trouble. And pent up pus is always a source of danger to the patient, as it may at any time either burst into the peritoneal cavity or form a focus for an attack of pyæmia.

As to the operation to be performed in these cases, it may be remembered that the surgeon's aim is to evacuate and deal with the result rather than reach the primary cause.

The incision I prefer, in dealing with these cases, is one about three-fourths of an inch away from and parallel to the upper portion of Poupart's ligament. In many cases the reaching of the purulent collection is easy, in some it is extremely difficult. In the last case I operated upon the man entered the Chang-poo hospital in an almost dying condition, having been ill a month and being thin and wasted. It took me upwards of twenty minutes to find the collection, which was deep down on the surface of the psoas. After evacuation the man made a fairly rapid recovery.

In operating on these cases it is of great importance that the surgeon should remember that in at least nine out of ten cases he will have to enter the peritoneal cavity, but his aim is to enter that portion which has been shut off by adhesions.

The abscess opened what is to be done with it. My own strong opinion is *nothing*. The man who gropes for the appendix is running a grave risk of opening up the general peritoneal cavity, or setting up a fecal fistula, and the same objection applies to irrigation. I simply insert a large drainage tube, and twelve hours later, when adhesions have more thoroughly formed, wash the cavity out gently with some antiseptic. It is quite unnecessary in the majority of cases to make a counter incision in the loin for drainage. Theoretically one may urge that a wound cannot drain uphill; practically it drains very well as far as my experience goes. And the same objection applies to counter incisions, viz., that the general peritoneal cavity may be opened up in the necessary manipulation. In the after treatment one point may be noted: the drainage tube may be lessened in *size*, but must not be shortened until the cavity has stopped discharging. In one of my cases this was done by the house surgeon in my absence, and twenty-four hours later I had the greatest difficulty in finding my way into the contracted abscess cavity where pus, as I surmised, was beginning to re-collect. In many cases

after the tube is out and the wound healed, there still remains a considerable mass in the appendix region, with some flexion of the thigh. Providing the abscess has been allowed to dry up, but little anxiety need be felt about these signs, as they will gradually disappear.

In two cases that have come under my care lately, the patients left hospital with thickening still present and some flexion of the thigh; four months later in both cases these signs had quite vanished and the patients were in excellent health. In others of these cases a fecal fistula forms. In my experience the greater number of these fecal fistula close spontaneously under ordinary treatment. They generally occur in cases that have been left too long, and in a few cases are said to prove very intractable.

In considering the whole question it should be borne in mind that appendicitis may be due to tubercle or to actinomycosis, and the abscess, after being opened, may absolutely refuse to heal or heal only after a long time.

Supposing a patient to present himself saying that he has (and producing good evidence in support of the statement) passed pus either by bowel or in the urine, what is the prognosis?

As regards the former, in many cases the passing of the pus per rectum is the end of the trouble, and no operative measure should be taken—at all events for a time. The same applies to the passage of pus in the urine, which is a much rarer complication. And before passing to the question of operation in the recurrent cases let me remind my readers that when the sinus leading to an old appendicitis abscess refuses to close, it is quite possible that there are one or more fecal concretions in the cavity which may have to be removed before it will finally close up.

So much for the suppurative lesions, now let us pass to the patients who are suffering from recurrent appendicitis.

The operation of removal of the appendix in a quiescent interval in an ordinary case is such a successful one that I would advise removal in any case which has more than two undoubted attacks. At any time such an one may be attacked with a seizure, perhaps in a locality where he is out of reach of skilled medical assistance.

But at the same time I am aware that there are many who do not agree with me on this point. Where many attacks, especially if increasing in severity, have occurred, all are agreed about the advisability of operation. As to the technique let me illustrate by a case on whom I recently performed this operation.

A young man, aged twenty-seven, had had upwards of twenty attacks before he came to the east, and on his way had a severe attack and a subsequent relapse. He was not operated upon, and after two more attacks the abscess burst into the bowel. For six months he remained well, and probably

would have done so indefinitely but for his devotion to violent athletic exercise. After six months attacks of pain recommenced, and in the interval after the third attack I operated.

A slightly curved incision about three inches long was made across the line from ant. iliac spine to umbilicus, along the outer edge of the rectus. The sheath of this muscle was opened, the muscle drawn slightly inwards and the abdomen opened a little to the inner side of the skin incision.

The appendix was found enlarged, bent on itself, and in the concavity lying on the mesentery of the appendix was the remains of the old abscess cavity.

The whole mass was bound down to the psoas by adhesions. These I separated with my finger and brought the mass to the surface. Separating the adhesions which bound the appendix to ileum and cecum, I transfixed and tied off the mesentery, managing to do this beyond the area touched by the remains of the old abscess, which had apparently opened into the cecum near the base of the appendix. Then the latter was tied off in the usual way, a little cuff of muscle and peritoneum turned back near the base, the mucous membrane tube ligatured with fine silk, and the appendix cut off. A small drop of pure carbolic acid was placed on the end of the mucous membrane tube and the cuff drawn over it and sewn in position with a couple of stitches of fine silk. As I had not opened any inflammatory focus I did not drain the peritoneal cavity, but closed it with sutures, passed in the following way: first through the skin *edge*, next deeply into the musculature and then emerging on the inside close to the peritoneal edge and passing in the reverse way on the other side of the wound. By this means the muscle is brought well together and at the same time the advantage of single interrupted sutures is obtained.

The usual dressing was applied, the stitches were removed on the tenth day, the wound healed by first intention and the patient was allowed to be up and about at the end of three weeks, but with strict orders not to do any athletics or lift heavy weights, etc.

In many cases the operation is much easier than this, but on the other hand, adhesions may be so dense that it is impossible to find the appendix.

In operating on these cases great care must be exercised in opening the abdomen, as bowel or omentum are frequently adherent. If omentum is found adherent to the mass, it should be tied off and the adherent portion cut away.

Another point to note is that occasionally a small abscess may be opened. In these cases it is safer to drain the site with a small rubber tube carried out at the lower angle of the wound. This may be removed as soon as the discharge ceases.

In conclusion, let me mention two points of importance in all cases. The bowels *must* be emptied by enemata and kept open. In acute septic

cases it is well to give a saline purge *after* the case has been operated upon. Enemata should be used before operation rather than purges. For the first few days fluid diet should be enforced, but in all my operative cases I am now allowing a return to ordinary diet sooner than before and with the best results as regards the rapid convalescence of the patient. Of course this point has to be decided separately in each case.

Secondly. In the matter of opium I hold very strong views. There is a tendency among a certain section of medical men, chiefly those who have little experience of abdominal operations, to speak of the *prejudice* of the surgeon against a most useful drug. I am quite sure that after severe abdominal operations opium is a poison, and that certain cases are lost, not from the operation but from the effects of the drug given afterwards. I never, if I can possibly help it, give opium after an abdominal operation.

And a still more potent objection can be adduced against its use in the early stages of appendicitis. It completely masks the true progress of the disease. Better, far better, I say, to let the patient suffer a little pain for a few hours than deceive both himself and yourself, as I have seen done, as to the true state of affairs. Severe persistent pain is not an indication for opium, but for operation, and although the patient's friends may implore you to give sedatives it is better to be frank with them and give your reasons than that later on you should have to tell them that the case is hopeless or at least that operation is a forlorn hope. It is not my purpose here to enter into the methods which may be safely used for alleviating pain, and although I am conscious that there are many points which I have left untouched, I hope the paper may be the means of aiding some who are in doubt to make up their minds as to the advisability of operating, or the reverse, in cases of appendicitis.

*English Presbyterian Mission, Chang-poo.*

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## AN OBSCURE CASE OF APPENDICITIS.

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By Dr. J. G. WALL, of H.M.S. *Esk*, and GEO. F. STOOKE, L.R.C.P. and S.E.

I. *What we diagnosed.*—We diagnosed tropical abscess of the liver accompanied with its usual antecedent—dysentery. There were things both for and against this view, and these will probably be most clearly appreciated by our giving a brief resumé of the patient's history. He was a marine on H.M.S. *Esk*, stationed at this port, and had only been out from home some two months; never having been abroad before. He suffered from a persistent colic and diarrhoea, which resisted all treatment and gained gradually in severity. The abdomen was tender generally, but acutely so over the site of



the pylorus, and he could not bear the gentlest pressure over this spot. The temperature never rose above  $102^{\circ}$  and was usually very near normal. On the sixth day of his illness more than a pint of blood and clots were passed with a quantity of yellowish green pus from the rectum (not the typical chocolate-coloured pus of tropical liver abscess). At this occurrence the pyloric pain increased greatly in severity, becoming really agonizing, and the patient soon became very collapsed. It was thought that the liver abscess had opened into the colon, causing the hæmorrhage and the passage of pus, and peritonitis was feared. He rallied from this collapse, however, and was then removed to the mission hospital, and the case was watched there. In a few days the gradually enlarging liver began to fill the epigastrium, quite leaving out the previous prophetic diagnosis of an abscess there. Just before operation we noticed that the skin over the tumour had become œdematous. We operated and opened an abscess cavity some seven inches in diameter, evacuating over two pints of laudable pus. There was no fecal odor apparent, so we began to question our diagnosis that the abscess had opened into the bowel. The discharge of pus per rectum had to be explained, however, and all we could say was that there was probably a valvular opening into the colon. We took scrapings from the abscess wall, but could find no *amœbæ coli*. The day after operation (the twelfth day of his illness) a new symptom made its appearance—a stitching pain in the right iliac region over the cecum, and this grew worse every day. We thought this pain due to a dysenteric ulcer in a head of the cecum, and the constant passage of blood clots in the motions confirmed this. Under this double weakening agency, however, the patient gradually sank till he died six days after operation.

II. *What we found.*—Being a foreigner we were of course allowed a *post-mortem*—a luxury in China. We found our operation wound and its surroundings quite healthy, but the liver was very much enlarged and was riddled throughout with multiple abscesses. There was no connection with the colon at all, though the viscus had become adherent to the lesser curvature of the stomach and to the diaphragm behind. The cecum was very badly ulcerated, and no appendix was to be found. A perforation had occurred there and had given rise to a peritonitis chiefly limited to the pelvis. All the abdominal glands were hard and enlarged. And now our case was explained. The liver abscess was not tropical but pyœmic. The ulcerated cecum had given rise to a portal pyemia which had become stationary in the liver, not infecting the systemic circulation. The yellow-green pus passed in the motions had come from the cecum, not from the liver.

III. *The excuses we make.*—We said *tropical* abscess chiefly because of the temperature. It was so low and even, and there was no rise and fall so characteristic of a septic fever, but it is evident that a pyemia limited to the portal-system may not give rise to much constitutional disturbance. We

had a form of dysentery we felt sure, for blood was being passed daily in the stools, though there was no sign of rectal ulceration. When the cecal pain appeared we put it down naturally to a dysenteric ulceration. Against tropical abscess was of course his very short sojourn abroad, which should almost have been final to us, but we hoped our case might prove a remarkable exception to the written rule. We did not dream of an appendicitis, for the liver absorbed all the symptoms and all our attention. Why did not a sign of that affection show itself till the fifteenth day of the illness? At the outset of the illness the appendix region had been carefully examined, but there was an entire absence of pain and tenderness. It is rather depressing thus to make public a mistaken diagnosis, but we have not shrunk from doing so, because one certainly does gain more useful knowledge from their own and other men's failures than from the brilliant successes of the faultless.

*Scotch Mission, Ichang.*



## SELF-SUPPORT IN MISSION HOSPITALS.\*

By O. L. KILBORN, M.D.

In the first stage of medical mission work, a few tens of years ago, missionary societies did not feel called upon to spend more funds upon the doctor than they did upon the minister. They gave him an allowance for a building, but for his supply of drugs and instruments, he was often obliged to depend upon friends and acquaintances in the home lands to whom he made known his needs by private correspondence.

Now-a-days, happily, the medical missionary is generously provided by his society with every needed drug and appliance; and this not only at the beginning of his work, but annually his order for drugs and instruments is promptly and cheerfully filled and forwarded. All current expenses incurred upon the field are also liberally provided for.

I trust we are approaching a third stage, when our home Boards shall be relieved of all but the initial outlay for buildings and equipment.

When is self-support possible? Certainly not at the beginning. When medical work is first opened, the twenty cash fee should be sufficient for all comers, but in the course of a year or two, as the name and fame of the hospital become established, the physician may begin to ask for fees and aim to increase his income slowly but steadily till in the course of a few years time his institution should become partly or wholly self-supporting.

For convenience sake let me speak of the sources of income as four—out-patients, in-patients, patients visited in their homes, and lastly subscriptions from foreigners and natives.

\* A paper read before the Shanghai Medical Missionary Association, January, 1901.

### 1. OUT-PATIENTS.

Out-patients should be required to pay a fee of at least twenty cash for first visit only ; subsequent visits should be free, as an inducement to take continued treatment. Exceptions to this twenty cash rule may be made at long intervals, in the case of beggars, and of patients already objects of charity to their neighbors. I have had many a case brought for treatment for whom his neighbors had contributed not only the fee of twenty cash, but his chair hire as well. In my experience very few, possibly one per cent, will apply to have the twenty cash fee remitted in their favor.

The vast majority of out-patients, after the payment of twenty cash registration fee, should not be asked for anything further, even though they come for a month or more, for the simple reason that they are too poor to pay. The minority who should pay, are officials and the rich or well-to-do merchants, and all patients with venereal diseases. Poor patients with venereal diseases should be made to pay something, more than the twenty cash, even if only 100 cash a month. Every little helps to swell the hospital income, and the fact of having to pay something will emphasize the doctor's timely warning to avoid such evils in the future. And furthermore it is usually easy to get them to pay, because we are often able to obtain remarkably satisfactory results by appropriate treatment in such cases, as for example the effects of potassium iodide and mercury in syphilitic lesions. Rich patients with venereal diseases should be made to pay well for services rendered.

Many patients come during dispensary hours, but do not wish to wait their turn to be seen. See them at once and charge them 100 cash. Others again come on non-dispensary days, or out of hours on dispensary days. Charge them 300 cash.

For operations in the out-patient department, either with or without an anæsthetic, a fee is usually easy to obtain. He is a very poor man indeed who cannot pay 100 cash for an operation requiring time, skill, and the use of expensive drugs and instruments. And many a man in very moderate circumstances will readily agree to pay 1,000 cash for some of the more striking operations, as, e. g., the removal of a subcutaneous cyst under cocaine.

### 2. IN-PATIENTS.

In my experience half of the in-patients in the general wards will pay the cost of their food, say 1,500 cash a month, or fifty cash a day. Another percentage will pay something towards the cost of their food, while not more than twenty-five to thirty-five per cent. cannot pay anything. I took a youth into the ward for a month's treatment of his leg ulcer. I asked him if he could pay me 1,500 cash for his board? He declared it was impossible. I believed him. After some conversation, he agreed to bring me 100 cash. He did so, and I gave him treatment, with board and lodging in the usual way, for a

month or more. He was profuse in his gratitude, much more so I think than if he had been treated entirely without charge. He was able better to appreciate the fact that we were under constant expense in feeding and caring for so many patients, and therefore also he appreciated the kindness shown in his particular case. In a hospital where everything is free, patients are apt to get the impression that we are abundantly supplied with funds, probably by government, and they therefore do not ask for favors, but are apt rather to demand their rights in the shape of free board and lodging and free treatment. They may become very independent in their demeanor, and under the circumstances see no particular cause for gratitude.

On the other hand, it is sometimes surprising how readily Chinese patients, who are evidently in very moderate circumstances, will agree to pay at least the cost of their food. They are always impressed by the reasonableness of the demand. Of course one meets with dead-beats, and not infrequently gets taken in, but by suitable precautions the number may be kept within bounds.

In the above remarks I have had reference to the large general wards only. Every hospital should have a number of private or single bed wards. Chinese appreciate them and will pay for them. The charge may be 3,000 to 5,000 cash a month. Especially if these wards are a little better fitted up than the general ward, a goodly number of patients will take advantage of them. The biggest fees of all will come from well-to-do in-patients, upon whom a major operation has to be performed. Not that it is necessary to get a big fee, or even any fee at all from major operation cases. Many of them cannot pay a fee, and some not even cost of food, but after the hospital has been running successfully for two or three years, if I get a wealthy patient for major operation, he pays a good round fee, or I do not touch the case. I am firmly of opinion that such a course of procedure will increase the respect of the patients for Western medicine and surgery and for the foreigners themselves. Such a course tends to an enlightened understanding of the position of the foreign doctor; he is not so likely to be regarded as under foreign imperial pay, for some mysterious, and therefore sinister purpose.

From one class of in-patients I believe it right to demand and receive in every case a fixed fee which shall be large enough to cover cost of food and leave a margin for medicine. I refer to those who come to break off the opium habit. My charge has been 2,000 cash, to be paid in advance, no portion of which shall under any circumstances be returned to the patient,

### 3. PATIENTS VISITED IN THEIR HOMES.

This form of work is very unsatisfactory from the professional point of view, because in so very few instances are we allowed to see the patient more than once or twice. Moreover, these visits are usually to the Yamêns or houses of the wealthy. Therefore I believe we should have a fee for

every visit. My practice has been to demand a fee of 800 cash; this is made, however, to cover chair hire. After a few experiences of being called to find patients already dead or moribund, or when one is unable to give a favorable prognosis, and then finding it difficult to get even one's chair hire, my rule latterly has been to get the 800 cash in advance. Exceptions are few, chiefly opium suicides, where the necessity for haste is obvious. My fee for opium suicides, by the way, was 1,000 cash, instead of 800.

#### 4. SUBSCRIPTIONS.

Subscriptions from foreigners do not require effort on the part of the doctor, other than a manifest willingness to accommodate people by accepting and receiving their subscriptions when proffered; but I am thinking only of an interior city, where all foreigners are missionaries. Probably different conditions require some action in the open ports.

As to asking or receiving subscriptions from natives, I have personally very little experience, but I believe that this might be with tact made a productive source of income, and therefore it is our duty, for the sake of the givers as well as for our hospital's sake, to put the opportunity before the officials and other rich people of the community.

#### OBJECTIONS ANSWERED.

1. *The self-support plan is apt to convey the impression of a mercenary spirit.*—I have never found this a difficulty or a danger, because the great majority of *out-patients* will still continue to pay twenty cash only, and they themselves readily acknowledge that this small sum cannot be sufficient to pay for all they receive, even in one visit. The majority of *in-patients* pay for cost of food only, or they get it free. In addition they have clean beds, bedding, and clothing provided; attendants to wait on them, besides medical and surgical treatment and nursing. While therefore the great majority of our patients readily confess that ours is a work of charity, surely this objection need not weigh with us.

2. *The self-support plan is contrary to the spirit of the gospel we preach!*—Many are carried away with the fine sounding phrase, "All the services of the medical missionary in China should be as free as is salvation through Jesus Christ." The fallacy lies in this, that while salvation is free, the proclamation of it is not free. Somebody must pay to bring both ministers and doctors across the sea and keep on paying in order to support us and our churches and hospitals after we get here. And everybody agrees that the church in China cannot attain to the highest spiritual development until it is self-supporting and self-propagating. Neither will patients, who are able to pay, receive the greatest good from the ministrations of the medical missionary until they are led to pay, to the extent at least of the complete support of the hospital.

3. *Self-support is a hindrance to evangelistic work in the hospital.*—This is directly contrary to my experience. The great benefit derived from our medical work is the removal of prejudice and the softening of the hearts of the people by what we do for them. When they have become grateful for such kindnesses, the way is prepared for the entrance of the gospel message. Now I have found that the patient who pays even a good-sized fee, is not by any means the least grateful. And moreover, he is not tempted to fawn upon us, or to be hypocritical in his gratitude. He can look us fairly in the face and thank us, and he is grateful, often more so than the man who has never paid a cash. Therefore I claim that the spiritual work of the hospital is not hindered, but rather helped by the self-support plan.

#### ADVISABILITY AND PRACTICABILITY.

I believe self-support then to be advisable for the two chief reasons: First, economy of funds; second, the good effect upon the patients; they are not pauperized, that is, they keep their self-respect, and besides they take a healthier interest in the foreigner and his hospital, and therefore also in the gospel he preaches.

I believe self-support to be practicable, because the Chinese are accustomed to pay their own doctors, and often their fees are exorbitant, even from the foreign point of view. Such experiences as the following have had their effect, I must confess, in influencing me towards the self-support plan.

A shoemaker brought me his little daughter with a tubercular abscess. After a month or more of treatment, she was pronounced healed, and the father came to express his thanks. "Why," said he, "I shall always come to you after this. The last time this child had a sore like that, I had Mr. Blank (naming a Chinese doctor of some reputation,) and it cost me over 4,000 cash and three pairs of satin shoes, and besides he took two or three times as long as you did, to cure her!" My treatment cost him just 200 cash.

Another case occurred in Dr. Gifford Kilborn's experience. A teacher, who had been in foreign employ for several years, called her in great haste to go to see his wife who, he said, had been in labor for three days. All preparations were quickly made for the relief—if it were not already too late—of the poor sufferer. On arrival, it required no serious expenditure of time or skill to diagnose a case of ordinary colic! The woman was not even pregnant! Needless to say, the family were perfectly disgusted at such an exhibition of foreign stupidity. They solaced themselves in the usual way. A famous Chinese doctor was called at once, who pleased everybody by his clever diagnosis. He found the woman to be pregnant, and confidently predicted the birth of a son in four months' time! His fee of 5,000 cash was

cheerfully paid. Dr. Gifford Kilborn had received no fee, and had paid her own chair hire. The lesson of this incident is not affected by the fact that at the end of four months' time the teacher rather ruefully acknowledged that "it had all been a mistake!"

*Canadian Methodist Mission, Chen-tu.*

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## HOSPITAL CONSTRUCTION.\*

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By JAMES BUTCHART, M.D.

We have all had our day dreams of the hospital we would like to have—neat, convenient, and withal clean. We are apt to form our ideas from the palatial halls of brick and marble that we have seen at home.

We must not forget that the supply of money to be put into a building is limited, nor is a display in excess of the actual working needs conducive to a good effect on the minds of the people that we seek to influence, for before all it is Christian influence for which the hospital work is carried on. We must not forget that in the interior at least that we are building for the Chinese whose feelings are often the opposite to our own. If in the construction of a hospital we can plan it to be convenient and clean and yet provide those things that they consider as comfort, we conduce to the number of cures and success with a good impression made on the minds of those that we meet.

Every variety of building, Chinese and foreign, dirty and clean, have had their measure of good influence, and after all it is largely the personality of the doctor himself that in a great measure determines the success or not of the work.

### STYLE AND PLAN OF BUILDING.

Two circumstances control the style of the building—the amount of funds and the size of the site. On a small piece of ground one must necessarily build two stories. The two-story building has the advantage of more air and light in the upper story and a less cost owing to the roof covering two rooms in place of one. Estimating the cost of an iron roof to be one-fourth of the whole, this will be a saving of one-eighth for a given size of floor space, over the one story.

The plan of the building must vary according to the methods of the worker. If he sees the patients largely in a short time more space must be given to the room where treatment is given, than if his assistant sees them at any hour. My preference is for a chapel where patients may gather and listen to the preaching; behind this the room where the treatment is given,

\* Read before the Shanghai Medical Missionary Association, January, 1901.

and connected with this, separated only by a glass screen that may be removed, the room where the drugs are dispensed, so that the doctor may have some oversight of what the assistant is doing in the drug room unless he has a foreigner in charge. Ranged around this room should be a dark room for eyework, and a room for private examination or dressing, a drug storage room, and, if possible, a little room for a laboratory where the microscope and stains, and the urinary analysis set, with reagents, may be always ready and handy. There may be a table, in another room, devoted to this use alone, but it is better to have it separate.

An operating room should be where good light can be gotten from two sides and the sun does not shine in at the time of day that you want to operate.

#### WARDS.

Wards should as far as possible be in separate buildings, but arranged so as to be of convenient access. In other words, in the pavilion style.

Where the building is two-story and verandahs are used it is a saving of space to have the stairway on the verandah; it may be at one end and enclosed or not. Hallways are places for the accumulation of dirt, and, unless special care is taken, it is hard to plan so that they shall not be dark, unless they are in the end of the building.

There are two classes of cases; one set that are poor and come perhaps with no friend. These like to be in the large ward, where they are not so much afraid of the magic of the foreigner. Others are used at home to retirement, and fret at being with the common herd. Private wards should be arranged for these, and are much appreciated and may be a good source of revenue to the hospital, as they are willingly paid for.

#### CONTRACT AND SPECIFICATIONS.

We will suppose that a two-story building is chosen. Unless you know the contractor to be a very reliable man, plans and specifications cannot be drawn with too much care. The plans and an elevation of the building drawn to a scale are a help if the man is used to them. The specifications should be full and put carefully into Chinese, revised till you are sure that you fully understand them yourself and that there are no mistakes.

An easy way, and perhaps the most successful way in the interior to get the work properly done, is to specify that certain parts of the work shall be done like that of some other building to which both yourself and the contractor can easily go for reference.

The foundation should go down to the yellow earth and be two to two and a half feet wide, made of broken brick and mortar-pounded down nearly up to the level of the ground. The foundation brick should be started wider than wall and above ground gradually contracted. It is well to have one course put in with gas tar to prevent the capillary soaking of water into the walls.



If the floor is of wood there should be two and a half or three feet of air space below it. All partition wall foundations and supports for the floor should go down to the clay and be built up solidly. If any earth is filled in, piling should be used under the foundation.

There are two styles of wall—the solid brick of the foreign way and the hollow or *teu-tsiang* of the Chinese made with foreign-sized brick. The latter may be used where there is only one story or where cheapness is desirable. In this style the roof and floors are entirely supported by a timber frame work and the walls filled in. The hollow between the bricks can be filled, Chinese fashion, with broken brick and mud plaster, which makes it a solid wall and prevents any danger of a brick being driven in by a blow as one sometimes sees done for mischief in compound walls where this precaution has been neglected. The mud should be put in in the wet condition.

No walls should be allowed to be built when there is danger of freezing weather before they can be reasonably set. Bricks of red color should be soaked in water to see that they are not imperfect before using, as these bricks differ from the grey in not having the water poured on the kiln after burning, by which they are tempered.

Sometimes masons in the interior need watching to see that they are careful to have the walls plumb. If once built it means much language, sometimes not of the mildest sort, before they will be changed unless they should fortunately fall or show serious defect immediately.

#### ROOFS.

The best roof by far is the corrugated iron, either No. 20 gauge, or, better, No. 24, with board sheathing underneath to protect the iron from bending and breaking when it is walked on by workmen. Each screw should have a washer on it set in white lead. Screws should be at least partly driven with the screw driver and not with a hammer as the Chinese are so fond of doing. Care is often necessary to see that the iron is given the proper lap of one and a half corrugations and five inches at the end.

If tile is used it needs heavier timber to support the roof and care to see that the tile is laid thick enough. If the building is one story without a ceiling either board sheathing must be used or else flat tile with plaster in any room that you intend to keep at all clean. In windy weather great quantities of dirt will blow through the tile in those parts of the country that are dusty.

The roof should project eighteen inches at the eaves to protect the wall from the weather, and never run into an eave trough set on the top of the wall.

#### FLOORING.

The best flooring is the oregon pine, or the portland cement that was recommended by Dr. Boone at a late meeting. If cement is used it must absolutely be put down in sections of freshly mixed cement. The ground

underneath, needless to say, should be pounded down. Then broken brick on a layer two inches thick of cement, one part to four or five of coarse sand. On this immediately is put an inch or so of cement one part to two parts of fine sand, the proper amount for one section being mixed at a time and immediately put in, the level being kept by a straight-edge board and line. Water should be thrown on it after a day or two for some time. Chinese workmen invariably want to put in the whole floor at one time and never succeed in getting the stone-like solidity of the pavements at home.

On a wood floor, Ningpo varnish can be put on over oil, but not the reverse. The warm, damp days of spring are the best time to apply Ningpo. If used in the cold, dry weather of winter there is sometimes trouble in getting it to properly dry.

If round timber is used it is impossible to get so rigid a floor as with the flat-sawed foreign timber, specially if this be braced between the joists, herring bone fashion. This might help the round timber.

Insist on seeing that none of the floor timbers are run into the chimney and beneath the fire place, but at that point are separately supported. Even good contractors are careless here, and fires are a consequence. Perhaps a good plan is to have the chimney built entirely outside the wall like the southern cabin, in which case it may be used to strengthen the wall and even be made ornamental.

#### MINOR DETAILS.

The lime for the plastering should be slacked and left in a pile for some time before using, and this will prevent the bursting of lumps in the wall afterwards so often seen. Lathing should be narrow enough to hold the plaster easily. A friend of mine in Japan insisted that it should be quite broad with the result that the plastering had to be all done over. The smooth trowelled, hard finish is best. It can afterwards be washed or painted as chosen. All corners should be rounded, as well as the wash board at the bottom, so that there is no favorable place to collect dirt.

Plenty of good ventilation should be provided, either by Dr. Boone's plan of perforated zinc in the transoms, or in the ceiling by pipes that lead to the outside. One hint here, if pipes are used have them closed by wire to keep out English sparrows.

The noise of a floor above can be prevented by a false bottom of thin wood with a filling of sawdust or chaff between this and the floor.

It is a good plan to have flues above all lamps, as the Chinese are so apt to have them smoke.

There are certain conveniences that are almost indispensable to a hospital; among these are closets for clothing and blankets. This needs only to be mentioned; but I should like to recommend a form of bath room, and only one. This is the shower bath, which is the form adopted in all public

institutions at home now. In some convenient spot in the story above place two "kangs" or two cans made of galvanized iron. These may be put in a wooden box and packed around with saw-dust or straw to keep the heat of water put in them. These lead to two tubes in the bath room, from each of which a tube for hot and a tube for the cold water runs to each sprinkler head, so that the water may be regulated to any temperature by opening or shutting the taps of each. These sprinkler heads may be made of galvanized iron, or the brass ones used in Japan by the barbers for shampooing are excellent.

The floor of the room should be of cement, and sloping, so that all water runs quickly into a drain. The room may be heated by a small stove to the degree necessary. Another small room in which they can sit and drink tea and cool off before going out will be a benefit and suit the Chinaman's ideas. A bath of this kind is extremely economical. It is clean, carrying no infection. It is entirely feasible. The amount of water needed and used by this form of a bath is much less than of any other kind. A school of over thirty boys were regularly bathed for less than ten cents of total cost each time, including the cost of hot water and charcoal for heating the room.

If there is a room connected with the operating room for the storage of instruments and appliances the room itself need not be large. Twelve by fifteen or so, or even twelve by twelve. A cement floor is to be recommended, or an oregon pine one with the oil put on boiling hot.

A great need in an operating room is a supply of sterile cold water. This can be had with the Berkfeldt filter, and in place of a force pump for pressure I am informed by Dr. Boone that nineteen feet of gas pipe connected with a small reservoir above will give pressure enough for all needs.

Electric bells and speaking tubes cost but little and are a great saving to oneself and assistants. I noticed when I called my boy by voice that he often claimed that he did not hear. With the bell the tone was the same at all times, and it was his business to be where he could hear it.

Wires and tubes can best be put in when the building is being built.

One hint as to batteries. In this damp climate the salts of the cell often "creep" and the cover of the cell gets moist and conducts electricity and in a short time the cell is ruined. Smear the top of the cell and the lid well with vaseline. This will prevent much of the trouble. I think I have seen it recommended to cover the fluid with a layer of thick oil, or melted paraffine.

In a two-story building the dumb waiter, so useful in the New York flat, might save much walking up and down stairs, especially in case of women.

The Chinese have a proverb that "under every doctor's sign there are spirits," meaning that every doctor will have deaths. A very useful room to provide is a morgue, where a body can be locked up in a secure way, so that it cannot by any possibility be mutilated and hence spread an evil report.

It should be placed so that the body can easily be removed through a back gate in as quiet a manner as possible. In most places the Chinese have a great prejudice to its being removed by the front way.

Where one is liable to meet typhus fever and contagious cases an isolation ward can easily be made, large enough to hold one patient, on the plan used in the separate pavilions in the women's hospital in New York. There are four corner posts, with a floor, and the sides and roof are made of corrugated iron fastened to frames so as to be rigid and yet to be easily entirely removed, exposing everything to the sun and air. The walls are of the height at the eaves of one sheet of iron or a trifle over seven feet. The roof on each side may be the length of one sheet. Ventilation will be free under the corrugations of the roof. The aim being to protect only from rain and storm.

The clean water closet in a Chinese hospital is next to the impossible. My idea of the best is one having the floor elevated three or four feet above the ground level. This floor to be made of cement with a drain for a urinal at one side and with oblong apertures opening into Chinese "kangs" or galvanized iron cans below. The Chinese can then adopt the natural squatting posture which they prefer. The floor having nothing on it, can be easily flushed with water and the kang removed at the back and cleaned.

*Foreign Christian Missionary Society, Lu-cheo-fu.*

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### CHINESE BABIES.\*

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By R. GIFFORD KILBORN, M.D.

This subject on the surface is a very simple one; but for any one who has to treat Chinese babies, it is most complex, and requires all one's patience and ingenuity. One's success will depend largely upon one's personality and power to deal with children. Their mothers need a great deal of careful management as well. The Chinese mother when she brings her infant to you, understands fully all its troubles, the necessary treatment, and how it should be carried out; notwithstanding the fact that she and the Chinese doctor have both failed to cure the child, and she has brought it to the foreigner only as a last resort.

A Chinese baby comes into the world amidst dirt and discomfort. If the weather is cold, the room is cold also. It is as a rule not washed for three days, but is wrapped in some rags, then tied up in its little quilt. Sometimes oil is rubbed over the body before it is wrapped up. The arms and legs must be secured perfectly straight inside the quilt, otherwise they are liable

\* A paper read before the Shanghai Medical Missionary Association, February 1st, 1901.

to grow crooked. The child is trussed up in this way from one to three months, depending on the weather. The infant's food consists of the mother's milk, together with rice, vermicelli, and sometimes a little of whatever comes on the table for the family. As a result we have gastro-intestinal troubles without end. The wonder is that any children survive. I have in mind the case of a Chinese wet-nurse, upon whom all advice as to the proper methods of artificial feeding for her own child of eight months, was quite lost. She would persist in feeding rice and vegetables at will. My remonstrances brought out the astonishing statement that "Chinese children were made different from foreign children!"

In the province of Szchuan a great many women sell their milk. They engage as wet-nurses, or they sell their milk to the aged at so much a cup. Human milk is considered to be easy of digestion, and most nourishing for old people, who on account of disease cannot eat, or whose appetites have been destroyed by the use of opium. While the wet-nurse is feeding the foster-child, another woman is given a few cash to feed the wet-nurse's own child; or the infant is being fed rice-flour, bean-flour, or more often the food eaten by other members of the family. In Chen-tu and Chungking old-fashioned nursing-bottles with the long rubber and glass tube inside, can be purchased on the street. But a native nursing-bottle consists of a triangular bag of blue cotton, with a very small opening in the end. This bag is filled with a soft pap, made of rice-flour, and given to the child to suck.

The first thing a Chinese baby does on coming into the dispensary is to howl. And what is there that can make more noise? If one try to amuse it, it howls the louder. So I make it a practice to attend to an older patient first, and so give the child time to become accustomed to its surroundings. When I do attend to it I don't put up with any nonsense. A Chinese child is so unaccustomed to control, that when one talks to and handles it kindly but firmly, it will often keep quiet from sheer surprise. I first learn from the mother all I can regarding the infant's condition, and then if an examination of the child is necessary I proceed to make it. After I make my diagnosis, and the medicine is ready, I either give it a dose at once, or direct an assistant to do so. If the child is very ill, or the mother very ignorant, let her have only two days' medicine, and direct her to bring the child back when this is finished. By having the child come frequently, and giving a dose each visit, one is certain that the patient gets at least so much medicine. This appears to entail a great deal of extra work; it does mean a very little more for oneself, and considerably more for an assistant. But one has the satisfaction of seeing more of one's cases recover. In addition to this frequent visiting and personal dosing, the mother must be strongly impressed with the importance of carrying out one's instructions as to feeding and dosing at home.

When we consider the terrible mortality among infants in China, their many diseases, acute and chronic, and the lack of intelligent care on the part of parents; when we think of the neglect and even cruelty with which the helpless little ones are often treated, surely our warm sympathies and our best endeavors are due to Chinese babies.

If the mother can be induced to withhold everything from the infant except its natural food I have found that Chinese babies with gastrointestinal disease recover rapidly. The simplest medicinal treatment is all that is necessary. In obstinate cases persuade the mother to bring her child into the hospital for a few days. Here she can be watched, and perhaps prevented from feeding too much rice and vegetables, with the happiest results for the child.

#### PREVALENT DISEASES.

What a frequent and familiar picture is that of the poor little mite of a few months, or over a year, who is brought to us with eyes tight closed, lids swollen, their edges excoriated by the abundant discharges, and the whole body much reduced, it may be, by disease and unfavorable conditions generally. An ear-splitting protest is promptly elicited on attempting an examination. But a drop or two of cocaine solution wonderfully simplifies matters, and the next time the retractors work more easily. Alas! in too many cases we find that irreparable mischief has already been done. How indifferently, how heartlessly the parent receives the news that her child is blind for life. But presently we understand that it is not so much indifference as ignorance and unbelief. She does not comprehend what we are trying to tell her; or if she does understand she does not believe us. Because *we* cannot cure her child is no reason why some more famous (Chinese) doctor should not be able to. But in many more cases, by prompt and energetic treatment, we can do much to restore the child to health and to save sight.

A very large percentage of the infants brought to us have diseases of the skin. In very young infants eczema and scabies are most common. In older children, almost every form of skin disease is met with. As a rule both the eczema and the scabies yield fairly readily to treatment if constitutional as well as local remedies are used. Almost every Chinese child over six months has worms. I make it a routine practice to give one or two powders of santonine as preliminary treatment. The results are sometimes as astonishing as they are satisfactory.

Another class of cases is very familiar to us all, namely, the many forms of hereditary syphilis. The parents' sin is all too plainly written in the features of the child. The little one is emaciated, and looks like an old person. We have the flattened nose, peg teeth, fissures at the corners of the mouth,

and not infrequently the steamy appearance of interstitial keratitis, but it is not necessary to give further details. We must be constantly on the lookout for these specific cases. Mercurials and cod liver oil work wonders for them.

Small-pox and measles we are not often called upon to treat. In Chen-tu Chinese children are nearly all either inoculated or vaccinated while they are small. For inoculation a "small-pox specialist" is called, who blows the virus into the right nostrils of girls and the left of boys. As soon as the eruption appears he is again called in to treat the case. According to Chinese belief inoculation should never be done during the first one hundred days of the child's life. Nor should it be done in the third, sixth, or ninth years, because of the danger of "noxious influences!" For most the operation is performed during the first or second year. Nowadays, even in far Western Szchuan, vaccination has become very common. The Chinese do really fear what they call the "wild small-pox," evidently a virulent form, from which many die and many more are badly scarred. While we are not often called upon to treat the disease itself we are often called to treat complications or sequelæ.

Frequently we are called to the home to treat cases of convulsions. Usually it is too late; the little one is beyond help. I remember one case I was called to see. The child had been ill for some time, and had already had several convulsions. It was in a convulsion when I arrived. I called for hot water, but was informed that hot water was not at all necessary. They had a fire and needles heated ready for me to use. Perhaps they thought I wanted to boil the child, and that hot needles were more suitable than boiling for this particular case! They refused to allow a bath, and after acceding to their urgent requests for a little medicine the case was reluctantly given up. As usual nothing more was ever heard of it. A doctor who refused to use hot needles, was not to be trusted with the treatment of that child.

Tubercular abscesses and tubercular joints are amongst the most common diseases met with. Plaster of Paris bandages and jackets are always available, and give the usual good results so long as they can be kept on. But the making of proper splints for orthopedic work is a real difficulty. Chinese iron is of poor quality, and work turned out from a Chinese blacksmith shop, is crude and coarse at the best. When one tries without the aid of a pattern to teach a Chinese blacksmith to make a complicated splint, and has to have it taken apart and made over two or three times, one begins to realize some of the disadvantages of living in a half-civilized country like this.

Diphtheria and scarlet fever may be common enough, but in the west we are called very seldom to see them.

The difficulties are great and the discouragements many in this line of practice. But the medical missionary who loves the little ones, and is quick to take advantage of every opportunity to win their love and inspire confidence in the parents, is sure to meet with a large measure of success.

*Canadian Methodist Mission, Chen-tu.*

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## THE OPERATION FOR EXTRACTION OF CATARACT.\*

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By WILLIAM MCCLURE, M D.

In my experience the treatment of cataract has given more pleasure and satisfaction than probably all the rest of my professional work put together. The subjects of this disease are so manifestly disabled from following the usual pursuits of life that they either take to callings of questionable character to earn a living, or become a burden upon their friends. The sense of sight is a most precious gift, and the loss of it is a calamity indeed. Some of our Saviour's most wonderful miracles were for the restoration of this faculty. Blindness is also used by Him to symbolize the deplorable condition of unregenerate human nature. After years of blindness the restoration of sight by an operation, almost painless and in a few minutes' time, must seem to many almost miraculous and cannot fail to be gratifying alike to patient, friends, and operator.

Our mission field, viz., Honan province, north of the Yellow River, with Southern Chihli and South-west Shantung, is bounded on the west by the mountain ranges which separate Honan from Shansi, but is itself for the most part quite level and continuous with the great plains of Chihli and Western Shantung. If we may judge by hospital statistics cataract would seem unusually prevalent in this region. Why this is so, I cannot say.

In 1896 at Chu-wang hospital eight-six cases of cataract were operated on; on April 30th of that year six cases were operated on in one forenoon, and four days later four more cases; about that time, too, over twenty cases were under treatment at once.

I feel that I owe an explanation and an apology for presuming to write this paper from memory. The medical work at my station, Chu-wang, has been perhaps peculiar. For nearly two and a half years it was most discouragingly small, then in 1893 it took a sudden jump upwards, but this was interrupted in 1894 by the absence of the physician. Again in 1896 the number of patients increased to an amazing extent, so that our dirty, little, musty 14 x 17 feet dispensary, consulting and operating room, all in one, was more

\* Read before the Chefoo Medical Society, January, 1901.



than taxed to the utmost, and so was the strength of physician and assistants, and there was neither energy, time, nor inclination left for case recording. On account of the lack of careful notes in preparing this paper I feel that it must lose a great deal of its value. I trust, however, that this recital of some of my experiences and some of the difficulties met with may be of some help.

#### PRELIMINARY EXAMINATION.

Before deciding to operate it is important to test the state of the patient's vision. By shading the eye with the hand and withdrawing suddenly, the pupil will be observed to alternately expand and contract, but sometimes this movement is so limited as to leave one in doubt. A better test of the patient's perception of light is to find out whether he can readily follow a lighted candle as it is moved about before his eyes. Should these tests fail,\* it should be seen whether pressure on the eyeball excites sensations of light within the eye. If all these tests fail to elicit a response there is most likely disease of the fundus, and operation would be futile.

Oblique illumination with a lens, ought never to be omitted in these cases. This will quickly reveal any opacities of the cornea likely to interfere with vision subsequent to operation. I have operated very frequently where there were very considerable opacities of the cornea. Of course whenever the lens is visible through the opaque cornea the patient ought to be able to see through the same cornea when the lens is removed. Even vision enough to enable the patient to get about without being led, is a great boon to these unfortunates; there may not be much glory gained by operating on some of these cases, but there will be the sense of having done the best for them. Oblique illumination will also show any irregularity of the pupil due to adhesions of the iris to the capsule. At the same time note the state of maturity of the cataractous lens. If the iris casts a deep, dark shadow the lens is still immature. So far I have no experience in *the operation for extraction of immature cataracts*, but the important advantages that might be gained by early operation make the question worthy of study.

The state of the lids ought to be examined. Occasionally cases are complicated by that commonest of eye affections in this country—entropion. If there is considerable irritation from the rubbing of the lashes and the transparency of the cornea is endangered, it will be best to correct the entropion before extracting. On the other hand, there are many cases in which there is not much irritation and the transparency of the cornea is not interfered with; in such cases it is not necessary to first do the entropion operation. There are many of our patients who cannot afford to stay over for two operations, and there are others who might misunderstand

\* Suggested by Dr. J. R. Gillespie during the discussion on this paper.

the object of the lid operation, and leave disappointed before the main operation was done.

A purulent inflammation of the lids would of course bar operation.

In this country, people almost continually expose their eyes to smoke, dust, and bright sunlight, and many in consequence suffer more or less from chronic redness and thickening of the conjunctiva, with excess of secretion. In such cases the ideal plan would be, of course, to treat the lids first, but the restoration of these to a perfectly healthy condition might prove very tedious both to your patient and yourself, and I believe, without waiting for this, if the eye be first very carefully cleansed, the operation may be proceeded with.

In one case, after a successful extraction, I was considerably mortified to find that the old man had such an amount of ptosis as to render the result almost useless. A more careful preliminary examination would have revealed this condition.

#### AGE LIMIT, ETC.

As regards the age limit for this operation I think I have never rejected a patient on account of old age alone. One very stout old gentleman, a literary graduate, of eighty-six years had both eyes operated on successively with good results. At the same time the state of health of the patient is by no means to be neglected. In the case of the debilitated and ill-nourished the operation had better be, at least, postponed. Should panophthalmitis, which unfortunately is not rare enough, occur, the consequences in such cases might be very serious. One of my cases, an old man, developed diarrhœa or dysentery and died while under treatment for cataract.

When pan-ophthalmitis supervenes, of course, the best plan would be to enucleate at once, but unfortunately owing to the superstitious and malicious stories about foreigners using eyes for medicine we are not always quite free to do what is best.

#### INSTRUMENTS.

As regards instruments it will only be necessary to specify a few points. The speculum ought to be curved so as to lie close to the cheek out of the way of hand and knife. It should also be capable of being easily and quickly removed. I have found a fenestrated scoop or vectis a most useful instrument for extracting the lens, and it is always among the instruments prepared for every operation. It is important that it should be very delicately made and of pliable metal, so it can be bent to any desired curve.

The instruments are always boiled in distilled water. For this purpose I have found the Swedish patent "Primus" stove most useful. The nails of operator and assistant should of course be cut short and hands scrubbed and all precautions taken to ensure absolute cleanliness.

## PREPARATION OF EYE.

Cocaine having been previously dropped into the eye, it is now washed out. An assistant directs a stream of plain water on to the eye, and the operator himself should manipulate the lids so as to wash out thoroughly every part of the conjunctival sac. Once I discovered a very small but quite lively worm in the sac. After washing out thoroughly, again drop in a few drops of cocaine and give your hands a final scrubbing. I have never used atropine previous to operation.

If the patient is nervous or stupid it might be well before operation to drill him by having him look in any desired direction. In one case when the time came to express the lens the patient could not be induced to look down sufficiently to allow the lens to clear the upper lid, and it was finally necessary to deliver with the vectis.

## THE OPERATION.

In a few cases the palpebral opening is very small, or the eye deeply set, so that there is much difficulty in making the incision. The difficulty is rather increased than diminished by opening the speculum very wide.

In making the puncture and counter-puncture I aim to do so in the sclero-corneal margin just a trifle on the scleral side and continue the incision upwards in that line, turning the knife slightly outwards at the end of the incision, so as to have the cut at right angles to the substance of the cornea. If the knife be not in very good order, it may tend to strip off the conjunctiva at the upper part of the incision if the cut be rather far in the sclera; it would be better in such case to complete the cut with scissors.

If the incision be made too slowly the iris may get in front of the knife when the aqueous has escaped. In such a case, the best way is to go ahead as if no iris were there; the only ill-effect will be to possibly make a rather irregular iridectomy, with perhaps bleeding into the anterior chamber. Blood in the anterior chamber usually comes away clean with the lens. It is true its presence may perhaps oblige you to cut the capsule more or less in the dark, but this does not usually involve much risk if one can judge distances tolerably well. At my first operation I had the misfortune to have the patient move his head and tear the iris just as I was about to do the iridectomy, and of course the whole anterior chamber was at once filled with blood; not knowing the situation of the pupil, the iris having been torn, and having no one with whom to consult, I deemed discretion the better part of valour and gave up the operation. My first two operations, mostly through "funk," were failures.

The iridectomy should be a small one; the tendency is to remove too much iris.

Many of the cases of cataract we get are of long standing, and the outer part of the lens substance has become fluid; on cutting the capsule this

fluid rushes out, carrying with it flaky particles ; there might be a tendency then to withdraw the cystotome too hurriedly, but this should never be done. If the lens is not over-ripe the sensation in cutting it will be like that of cutting green cheese, and the lens, when released from the capsule, may be seen to rise towards the anterior chamber. I have occasionally found the lens substance partly fluid and the capsule apparently thickened, and on attempting to cut it the whole thing would roll away from under the cystotome ; possibly scissors may be used in such cases. In one such case the lens was ejected in the capsule and rolled on to the table like a little globule of water, but on touching it lightly with the finger it collapsed.

I have employed two methods in expressing the lens. Sometimes when one fails the other succeeds. In the first a spoon or spatula is used to make pressure on the eye-ball below the lens, while counter-pressure is made with another above the wound. Pressure, of course, must be very gentle and even. The position of the spatulas and the direction of pressure may be varied, and we may, as it were, coax the lens to present at the wound. In the other method the spatulas are discarded, the speculum removed, and the edge of upper lid being nipped between the finger and thumb counter-pressure is made with it above the wound, while the thumb of the other hand exerts pressure on the eyeball through the lower lid and the lens forced out much in the same way as the contents of a boil would be pressed out.

If, as sometimes happens, both these plans fail, there remains the vectis. This instrument must be introduced very gently, of course, to avoid pushing it into the vitreous. At first it is directed towards the centre of the eyeball, but as it passes the edge of the lens the handle is brought nearer to the forehead and the instrument is allowed to slide down behind the lens almost by its own weight ; then it is lifted forward so as to bring the lens into contact with the cornea, thus preventing it slipping off the vectis as the latter is gently withdrawn. If done very carefully the vitreous will not be disturbed.

When vitreous escapes after the lens is extracted, the speculum should be at once gently removed in order to ease all pressure from the eye-ball. In closing the eye the upper lid had better be lifted over the wound so as to avoid the danger of folding the flap over on itself. It would be vain to try to co-apt the edges of the wound in the relaxed state of the eye-ball, and I must say the last view one gets of the eye as the lids close over a black, gaping wound is not encouraging, and the operator will probably not enjoy his dinner that day. But I have unfortunately seen this complication a good many times, and experience shows that these cases are by no means so hopeless as one might suppose. Provided the eye has been thoroughly cleansed, the majority, and I think I am safe in saying the large majority, of them do fairly well. In one case, due to the patient straining his eye after the lens was

extracted, the vitreous was squirted out until it ran down to his ear, and yet he recovered with useful vision. Of course in these cases prolapse of the iris may be expected to occur with greater frequency owing to failure to approximate the edges of the wound from the first.

Should vitreous escape before the lens is delivered then it seems to me the only hope of extracting the lens is with the vectis, and if the vitreous is thin, as it is in many of our cases, there is little hope even in this way of saving the eye.

After extraction the edges of the wound sometimes do not approximate exactly; this may perhaps be due to small pieces of lens matter being retained under the edges of the wound and especially if there is a well-marked arcus senilis they may not be easily recognized, but when they are pressed out the edges ought to come together accurately. In rarer cases the edges fail to coapt owing to flabbiness of the coats of the eye-ball—the cornea sometimes being actually wrinkled until the anterior chamber becomes refilled.

Only once have I extracted by the simple method without an iridectomy, and that case was most satisfactory, but it was not tried again, because in many of our cases pieces of lens matter are apt to get rubbed off the body of the lens and lag behind, and I feared it would be more difficult or impossible to remove them where the iris was whole.

#### DRESSING.

I dress with a piece of dry lint next the eye, with a small pad of absorbent cotton over it, and the whole kept in place by a strip or two of adhesive plaster. I used to bandage all the cases, but the bandage was very frequently rubbed off. Never use a moist dressing in this or any other eye case. Some dressing more absorbent than ordinary lint would be desirable.

The patient is never allowed to walk to his room; always carried.

Unless there is pain the dressing is not changed until the second day, and where vitreous has escaped not till the third day after operation. On removing the bandage the condition of the lid will reveal very plainly the state of the eye; if the lid is neither red nor swollen the case will be found to be doing all right. On gently separating the lids a little the conjunctiva ought to show whitish; if it appears red there is something wrong, either prolapse of the iris or septic trouble in the wound, and in my experience, if a case is doing well at this first dressing, it is extremely rare for it to go bad later; if trouble does arise afterwards, the chances are the patient or his attendant is to blame; it may be a case of getting angry (生氣).

Cough I have seldom found a serious danger, although I sometimes put the patient under a few days' preliminary treatment if his cough is bad and give him sedative cough medicine after operation.

I endeavour to keep a supply of glasses on hand for these patients. Round lenses, which may be got either in Japan or America, are of course more to the Chinese mind. The frames should be strong, and I have not yet got a frame that is satisfactory in this respect. 10D and 12D are the lenses usually required, although a wider range ought to be kept in hand. One of my cases had previously had a pretty high degree of myopia which was exactly corrected by the operation for cataract. The lenses and frames should be got separately and put together by the physician as required. A little advice to the patient on keeping his glasses clean with a clean piece of old soft cotton cloth might, if needed, add much to the usefulness of the result.

*Canadian Presbyterian Mission, Chefoo.*

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### WOMEN'S MEDICAL WORK.\*

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By MARGARET H. POLK, M.D.

I have been asked to present a paper on the phases of mission work that are distinctly represented by the woman physician.

As it was said that there are so many points of difficulty that present themselves to the woman physician about which the men know nothing, I have in the paper spoken of the difficulties rather in a comparative than in a positive way. Many of these difficulties are met by the men, but encountered in a more intensified form by the women, whose resources are more limited. I do not mean to say that the obstacles are insurmountable—simply that they retard and harass—nor do I mean to say that I have not seen exceptions to every statement made in this paper.

Among the first of these difficulties are the restrictions that come to her just because she is a woman. She dare not take the initiative in anything, since by doing so she “loses her womanliness,” whatever that may mean. When she lands on the foreign field she often finds some man in charge of the men’s department, who, with the best intentions in the world, patronizes her, metaphorically patting her on the head and telling her in many ways that she is an unusually precocious child. In the beginning she rebels, at this, but is in danger of finding it useless and submitting, thus finally losing her power to assume responsibilities, and either sinks into the position of head nurse, or, thinking that it is nice to have some one else bear the burdens, she marries, and is lost to the profession. In short, the undignified position of claiming and maintaining her dignity of position is one of the difficulties that women physicians on the mission field have to meet about which the

\* Read before the Shanghai Medical Missionary Association, January, 1901.

brethren know nothing. If she lands in the foreign field and finds no kindly brother to open the way, when she begins to prepare for her work she finds herself crippled at the outset, because she cannot go out and mix with the people, and is thus prevented from knowing the thoughts, the customs, the superstitions, and the emotions that dominate the people for whom she would work. Realizing, as we all do, how great an influence external affairs wield over the inner workings of the body we feel that a man or woman should know something of the people that she or he would treat, and when we remember that the missionary physician carries in his own personality—or should carry—all the inventive, incentive, and inspiring power that must lift men from mental, moral, and physical depths to heights of morals, thought, and health that will regenerate the world, we fully realize that the physician should know the people whom he or she would serve.

#### CONFINED LIFE OF WOMEN.

The woman physician, being largely restricted to her own home, must depend on her native helpers to give her all her information, and counsel with her in all of her plans. The native helpers must of necessity be native women. If the Western woman finds herself crippled in intellectual power because of the long years of ignorance forced on her ancestors, until she now is not quite certain how to use the advantages of her hard-earned freedom, how much more is the native woman, who is yet a slave, and the conditions of whose life isolate her from all association with the world's progress and thought, incapacitated for giving any intelligent insight into the hearts and lives of the people?

The richer and supposedly more intelligent class of women are behind closed doors, and hence the majority of them never know that the doctor has come to their country; and those who know do, do not realize that her peculiar abilities are to meet the demands of their peculiar wants and needs. Of course I would not imply that our mission is to the rich, but that we have not a larger following among the richer class is one of our drawbacks, since a hospital is an expensive affair, even to run along usual ruts, and much more expensive if any doctor would equip for up-to-date work, or extend his researches into finding out the diseases peculiar to his locality and the circumstances that modify them. The hospital for the men is generally better equipped than for the women, because the man physician has access to the men of China and hence to the intelligence and the purse.

At the men's hospital where I live a simple course of treatment for eyes got a fee of two thousand dollars. At the woman's hospital the largest fee that I have known was twenty-five dollars.

As I said above, the native assistant, who is usually raised in a mission boarding-school, and knows nothing of life, and whose inheritance is usually from the poorer class, hence is unacceptable to the better class, must stand

between the physician and her work—so the doors of the better class are apt to be closed to her.

Good fortune may favor and an entrance be gotten to the person of the woman of the family, but she will often be surrounded by people whose unreason will prevent her yielding herself to treatment. It is not infrequent that the doctor has to turn away from a case that she could relieve, a case that is begging to be relieved, after trying to reason with the father-in-law, the mother-in-law, two or three of the older sisters-in-law, the woman's own family, and last but not least in a Chinese family, the servants. This is more marked in the out-work which is unsatisfactory from every standpoint, except that it is a source of income for the hospital.

If the women are persuaded to come into the hospital they usually bring two or three servants, which not only complicates the relations with the patient but complicates the housekeeping arrangements.

#### DIFFICULTIES IN HOSPITAL WORK.

There are women of well-to-do families who would tarry in the hospital, but the fear hangs over them all the while that their husbands will bring in wife number two, or twelve, as the case may be, if they tarry long from home. There are wives of officials who want to come, but according to the many customs of official life the wife is more restricted than ordinary wives; there are young wives that would come and be treated, but a young wife must not go out at all; there are wives of business men who would stay, but they must go home to assist in business affairs; and the wives of the poorer class must go home to make the family living, so the only patients that can tarry long enough in the wards to be cured, or to be touched by the truths of the gospel, are the children.

When it is remembered that these children are largely girls, and that even well girls are not very precious, it will be known that even they do not tarry long. One small girl was brought to our hospital in a condition of general anasarca. She stayed a week and was getting better when her mother came back leading the future mother-in-law, who demanded that she be taken home. This was largely because she did not want the girl to get well, and since the pledges of betrothal are inviolable, I could but sympathize with the mother-in-law. The child not being wanted, the sickness was a convenient means of solving the problem, and having proven to her world that she had exhausted her resources in her efforts to save, she took her home to die. One rich mother came to the hospital bringing her daughter who was unable to walk and whose legs were in a spastic condition because of pressure on the spinal cord, due to acute curvature. She was treated by suspension and the removal of the weight of her head from the spinal column, so she began to walk. The mother had said when putting her in that if we could not cure her, she would have to help her to die, for she was no use. Soon after she



began to walk she was taken away, and we heard in a few months that she was dead. There was another little girl of a rich family who had gangrene of one foot because of binding, and gangrene of the cheek and soft palate. The servant informed us that it was hoped at home that she would not get well, for she had never been loved, and was only brought because of some outside pressure. That pressure was removed and the child was taken home.

So it may be seen that when admittance to them has been gained, or they have been persuaded to come to the foreign hospital, their family relations, customs, and superstitions stand between them and the best work of the physician. Their lives being so shut in they believe every idle story of the servants, and so they fear every movement of the physician.

If even a comparatively simple operation is desirable, the husband, the son, and the mother-in-law must be consulted, as well as the opinions of the neighbors and friends. One woman came with a trouble for which I thought she needed an operation. She must consult the "big wife." The "big wife" was a friend of the hospital, so she said she would be willing to trust the foreign physician for herself, but she could not for this young woman, because if any serious trouble came up and the woman should die the friends would all say that she had gotten the foreigner to kill the small wife, so it were better for the small wife to run the risks of a natural death than that she run any risk that would implicate her.

Of course all these restrictions make difficulties from the evangelistic stand-point. Many of the women that come to the hospital are deeply impressed with the truths of the gospel, but all their surroundings prevent these truths taking deep root in their hearts and from becoming strong enough to dominate their lives. So the church's fruits, gathered by the hospitals for women, have been small indeed and have been gathered largely from the poorer and freer classes. The poor women of China are the rich women.

#### TRAINING OF HOSPITAL ASSISTANTS.

One of the problems that face all missionaries, and the solving of which presents ever increasing difficulties when viewed from the stand-point of the woman physician, is the problem of assistance in hospital work.

If girls are taken young enough to train well, they are a source of constant care and anxiety, for they must be shielded and guarded and restricted. This prevents their being of much assistance outside the hospital walls. After years of thought and care and training, they get married and are gone. If the physician concludes, in view of these facts, that she will only train widows, she meets the difficulty of finding widows who are young enough and who are Christians. If they are young, they have to be guarded; if they are not young, they cannot be trained satisfactorily; if they are not Christians, their influence is to be feared about the hospital, and soon their

sons assume control; if the physician would employ married women, aside from the interruptions that come from the conditions of wife and mother, the husband is often an opium smoker and a rascal, and gives endless trouble.

Because of all the disappointments, restrictions, and difficulties, the women physicians of China have not generally considered it expedient to try a medical education for women. The hospital in Soochow is trying the experiment. The education of helpers has been fully discussed from the men's point of view, but this paper would not be complete without some words on the subject from the woman's stand-point. During the four years that I have spent in China I have met three women physicians—not midwives and not from foreign institutions. One was the wife of an old physician who had taught her the secrets of her profession. Their son was a bright young physician, whom I met quite often. I was first called to their home to see the little boy of this young physician, and there met his father and mother.

The little boy died, but they became my friends, and I went back again and again to see the eyes of the young mother who had almost ruined them in her grief for her boy. They lived elegantly and made most of their own medicines. They showed me their pharmacy and how they made extracts, fluid extracts, and pills. To my regret, my ears were so little opened to Chinese sounds that I did not understand them, but I did understand when they showed me a sedan chair with a doctor's card on the back and told me that it was the old mother's chair and that she got rather large fees for her visits, but that she treated more now by advice and prescriptions, as she was so old. Another woman physician came to the hospital from one of the larger villages outside Soochow. She was also old. She had a pair of obstetric forceps and said that she had at home a speculum for local application to the vagina.

The third one I met in the family of one of the officials that lives in the yamên. She was a dignified young woman about thirty-five years old, beautifully dressed. When I went in she was sitting at the table writing. She did not look up, but quietly finished her prescription, closed a very neat and compact tin medicine case, gave a few final directions, and left the room with as much of professional dignity as the best among you could assume. I admired her, and the family treated her with marked respect.

I give these few examples from my own experience to show that there is no foundation for the belief that the education of Chinese women in medicine is an innovation, or for the oft repeated statement that China is not ready for women physicians. The country is flooded with midwives, and if I have seen these three in my limited experience, there must be a considerable number of women in China who are practicing medicine. Shall we give them better?

The difficulties in the way are almost insurmountable, but the thing to decide is—is it best? Then our faith may plant the mountains in the midst of the sea, and the work moves on as though the land had always been level.

The work of training will be drudgery, and the results unsatisfactory from every point until the curriculum of our schools is extended.

To take a girl up who has been in a boarding-school all her life, who has only been taught the Christian books in Chinese, who knows nothing of the first principles of physics, of chemistry, or of mathematics, who never knew a word of English, whose mind has never been taught to think and try to instill into her brain the faintest conception of all the beautiful mysteries of biology, physiology, histology, or pathology—in short all the known mysteries of life and death—would be a preposterous idea, but by patient and long drilling in the more apparent facts of all these branches, and the more important facts of hygiene and therapeutics, we are able to fit these lives for usefulness in the spheres to which God has given them rightful entrance, and what more need any life demand? English should by all means be the medium of their thought, because it is as easy to learn as the deeper “*vung-li*” of their own language and because the foreign physician can in that way do her own teaching. The average number of working years that the woman physician has given to her has been very small, so that if she must teach in Chinese she has very little chance to teach. If the church should decide to have a medical class, then the schools should be so planned that the girls who feel that they want to give their lives to this work, can have the advantage of a preliminary education, and the class could come in on an entrance examination.

However a thing is never done till it is begun, and most of things that succeed have a small beginning. The schools of the church for which I work have not heretofore paid any special attention to educating boys for the medical class, but I think that Dr. Park has the right to feel that his slow, unsatisfactory, unsatisfying drudgery has been amply rewarded in the useful lives that have gone from his class. So I hope that it will be in the years to come with the girls.

It is true that the first graduates of the Western world could not compare with the graduates of to-day, but they met the demands of the day in which they lived and paved the way to better and higher things.

The education of the girls must be a little more expensive than that of the boys, because of all the safeguards that must be put about the girls and the fact that girls must be more neatly and nicely housed than the boys. This latter fact also increases the running expenses of the hospital, as the women's wards that I have seen all furnish bedding and clothing, while I have known very successful men's wards which furnished nothing but the house, not even having charge of the cooking.

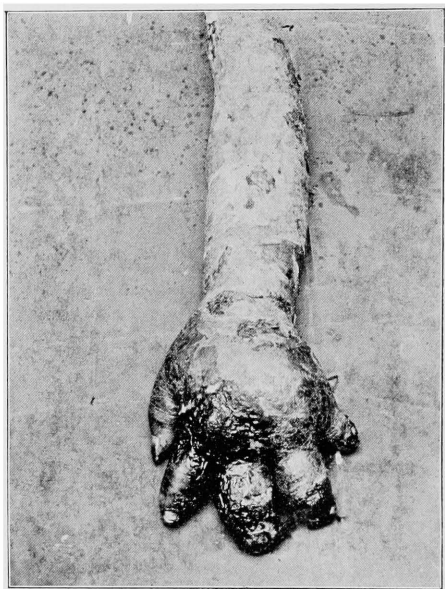
## PREVALENT DISEASES.

Just a few words about the character of the diseases that I have found most prevalent. As in the men's wards, of course all the various manifestations of syphilis and venereal diseases are met with, modified more or less by the difference in constitution. The various phases of tuberculosis that present themselves are common and distressing.

The complications in obstetrics come not so often, but bring immense mental and moral strain to the physician and are usually unsatisfactory, as the doctor is called in too late to remedy—so has to leave with more the feeling of a butcher than of a surgeon. The diseases that follow ill-managed or difficult labors are usually endured by the women and no relief sought. I have seen numbers of cases that were distressing beyond measure, but were usually hopeless because of the inability to gain consent to operative procedures. One of the most distressing, or rather hopeless things that comes to notice is hysteria. This is usually connected with their modes of life and the lack of diverting occupations. I have found numerous cases of hysteria in young married women, who for the first year were not allowed out of their rooms except to pay their respects each morning to the mother-in-law. Added to the lack of exercise, and mental diversions, are the reproaches and disappointment of the family that she gives no promise of the hoped for son, and what can medicine do? I induced one such case to be brought to the hospital, where in a few weeks she was fat and well, and laughed and talked, and learned to crochet and play croquet; in fact seemed well and happy. She went back to her secluded life, and in a few weeks returned to the clinic a wreck.

The rheumatism, kidney troubles, and various other forms of troubles that arise from occupations, especially farmers who work in water, are not distinctly woman's diseases. But there is one thing that has impressed me very much as probably being more common among the women—valvular heart lesions. I have grown to be suspicious of the heart whenever a woman comes in with a tired air, complaining of numb hands and feet, of a feeling of weakness, or difficult breathing, or a cough with bloody sputum, or of having had a hemorrhage without any manifestation of phthisis, or of scanty urine with aching limbs and sleepless nights, if she dates the beginning of her bad feelings back to some season of anger or distress, or to grieving over the death of some member of the family for whom her affection or public opinion demand that she grieve violently and long. No medicine can cure the injured heart, or even help it much, when the woman must go back to conditions that demand again and again repetitions of the original cause of the trouble. No medicines can effect a cure in the cases of hysteria so long as the women have to follow their monotonous lives. So that the medical work of the woman physician, except in the hopeless cases, differs little from that of the men, and





CASE No. 1.

[We regret that the engraver has left off the top of the photograph, showing the shoulder, and that date of issue precludes having full engraving made.]

their distinctive work, it seems to me, lies principally in the influence that they can succeed in sending out, through their work and their workers, into the homes and lives of the native women, to act as the leaven that is to reform the whole tenor of the women's lives. Slowly but surely and constantly must the spirit of truth concerning *all* lines of life be given them, and when that spirit possesses them, it will work, as it has in all ages, toward making men and women free, and they shall be free indeed.

*Methodist Episcopal Mission (South), Soochow.*

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## TWO CASES OF SNAKE-BITE AND THEIR RESULTS.

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By H. N. KINNEAR, M.D.

The first half of 1899 brought to Po-na-sang Hospital (Foochow) two unusually interesting cases.

One busy morning after a run of cases of dyspepsia, rheumatism, ulcers, and itch, a boy came into the dispensary accompanied by his anxious-looking father, and took a seat with a degree of slowness for which there was no apparent reason, and which suggested that he was entirely oblivious to the number of other patients waiting for attention. The boy's left arm was not in his sleeve, and when the father had unbuttoned his clothing and thrown it back we had presented to our view the most distorted looking hand and arm that any of us had ever seen, and which fully accounted for the patient's slow motions. The shoulder was normal in shape and appearance, presenting no contrast with that of the well side. At the point of insertion of the deltoid the arm was surrounded several times with a narrow cloth bandage tightly adjusted, to prevent the swelling and disease from extending to other parts of the body, as the father informed us. When the bandage had been removed we found the arm at this point but little more than an inch in diameter. The bone seemed normal in size, but the overlying tissues were hard and cicatricial in character, as the result of the long continued irritation of the bandage.

From this point downwards the diameter of the arm rapidly increased and all of its normal outlines were lost. The elbow was about two and one half inches in diameter, as was the remainder of the forearm, and it, as well as the wrist and the joints of the fingers, was immovable. The hand was more distorted than the arm. It was about twice as wide as the well, and rather small, hard, and about two inches thick at the center of the palm. Like the arm, it was hard with semi-organized tissue, and not œdematous. The fingers looked like pieces of mud put on by an unskillful modeller; were shortened by the encroachment of the swelling of the hand, and the finger-

tips were gangrenous. From sinuses, especially numerous on the hand, large quantities of pus were pouring, and the amount of dried pus which had accumulated easily persuaded one that washing the hand had been no part of the treatment given up to that time.

The history was quickly told. The boy, now sixteen years old, was pulling grass or weeds about nine months previously, when a snake bit him between the thumb and first finger. When asked about the snake he admitted that he had not seen it, and while some doubt must always attach to the history as a result, it seems very probable that the Chinese were correct in believing that it was a snake, possibly a poisonous one.

Immediately after receiving the bite the hand became greatly swollen and painful, and native doctors prescribed various poultices of pounded herbs to relieve this state of things. Some of the applications were very acrid, and no doubt added to the already existing irritation. An abscess soon formed and broke, and, instead of giving the pus a free exit, the usual Chinese treatment, that of applying strong plaster over the opening, was adopted with the usual results. Other openings soon formed and the tendon sheaths became infected. As the swelling extended up the arm it was bandaged to keep the disease from spreading beyond. If it was successful in doing this it was also successful in interfering with the circulation and nutrition of the hand and arm, which soon lost all their functions and became a heavy and useless club, through which the abundant discharge was exhausting the boy's strength.

The radical nature of the treatment necessary was explained, and both the boy and his father expressed their willingness to have it carried out, but as it was shortly before the Chinese new year holidays they decided to wait until early in the new year. We predicted that they would not return, but were mistaken, for about the first of March they were on hand with everything required for a stay in the hospital.

The patient came from the county of Everlasting Happiness, where the only thing that really seems to be everlasting is the malarial germ. As patients coming from there are almost sure to have fever after an accident or operation, whether they have previously had ague or not, and because there was pronounced anæmia present, the boy was put upon anti-malarial tonics, from which only disappointing results were obtained.

#### OPERATION.

As there was no good tissue below the level of the axilla, only disarticulation at the shoulder-joint could be considered, so after enveloping the shoulder in a soap poultice for thirty-six hours the arm was removed April 14th, with aseptic precautions. After giving a small dose of morphine hypodermatically and two doses of brandy the patient was chloroformed without accident. By



throwing a loop of Esmarch tourniquet through the axilla and crossing it over the shoulder, the ends being held by an assistant over the opposite shoulder, hemorrhage was controlled so effectually that only a very small amount of blood was lost, spite of the fact that the tourniquet broke just as the arm was off, and had to be applied again.

The amputation was performed by making an incision to the joint at the middle of the deltoid and continuing down to its insertion, or as near as we could get without encroaching upon the diseased tissue, the muscles dissected off of the head of the humerus, the ligaments severed, and lastly the muscles cut with a long knife from above downward. Catgut, sterilized by boiling in absolute alcohol, was used for both ligatures and sutures; the wound was dressed with dry aseptic gauze, covered with rubber tissue to keep out the visible (!) as well as microscopic bacilli and a bandage firmly applied.

The boy rallied fairly well from the immediate effects of the operation, but before night was in a serious condition, which did not entirely pass off for three or four days. The usual restoratives, including a good quantity of milk, were given with good results. Some temperature developed the second day, but though it persisted several days, the highest point was only about 101°; but, on account of it and slight pain, it was thought best to change the dressing at the end of seven days. The wound was found in good condition, with the exception of a slight infection of some of the sutures, which probably accounted for the temperature. The wound was cleansed with peroxide of hydrogen and dressed a few times, but healing was uneventful. He was soon eating ravenously, walking about the hospital, and later running away every day to see the sights of the great city of which he had hitherto seen so little, and left us with a fat face that made him look like another boy.

In March, 1900, he was seen by a missionary who was touring in the Ing-hok field. He was well and happy, and showed with great pride his well-healed wound.

#### CASE NUMBER TWO.

Before the above case had left the hospital another case of snake-bite applied for admission. He came from the town of Iu-ca, several days' journey from Foochow, up the River Min. He was also accompanied by his father, who vouched for the almost incredible statement of the boy that he was nineteen years old, although he appeared to be only about thirteen; his growth having been retarded by the drain upon his constitution, which brought him to the hospital. He was not weighed, but we estimated that he weighed little if any more than seventy pounds; his body was markedly emaciated and his face wore an anxious, prematurely old look.

When numerous layers of cotton from an old Chinese bed-cover, and brown paper dripping with pus, had been removed we had before us a stump that was not less repulsive than the hand of the first case. The right hand and

half of the forearm were gone, the stump was greatly enlarged, being about three and one-half inches in diameter, and presented an ulcerating surface bathed in unhealthy pus, to a point just above the location of the elbow joint, while a band of cicatricial skin extended up the arm from the ulcerated surface to the junction of the middle and lower thirds of the humerus. The entire arm and shoulder were enlarged and the surface covered with large, tortuous veins. The entire humerus was three times as large as that of the opposite side and the periosteum tender when pressed at all. The glands of the axilla were enlarged and tender. The amount of pus being formed was phenomenal, a large drop falling into the jar every few seconds and leading one to wonder, not that the boy was emaciated, but that he was alive at all. At night he had slept with the stump extended over the edge of the bed and a dish under it to catch the discharge. This had made the old cotton bed he was using for dressing last longer and had kept his bed cleaner.

When asked the history of this state of things the boy said that *seven years previously*, when he was only twelve years old, he was catching birds in the crevices of the walls of his home, when he was bitten between the thumb and first finger by a "rat snake," presumably a snake that catches rats. The snake being caught later was found to be about three feet long and to have a flat head.

Swelling and severe pain commenced at once, and the native doctors applied various poultices without success, either in preventing the swelling or in mitigating the pain. The swelling soon extended up the arm, and it was then recommended that a ligature of some strong vegetable fibre be put tightly around the arm above the swollen area. This was done so effectively that the hand became gangrenous, the tissues under the ligature sloughed away, leaving the bones of the forearm exposed at that point at the end of sixty days, and after four weeks longer the dead hand fell off. The unhealthy stump left had only grown worse during the six years that had intervened before he came to us.

The patient had an abnormally vigorous appetite, but the drain of the discharging stump evidently necessitated the taking of large quantities of food to keep the body even as well nourished as it was, for all attempts to put the boy or the stump in better condition failed dismally.

#### OPERATION.

On May 24th the boy was given a bath with liquid soap and brushes; the shoulder and arm being done up in cotton saturated with lysol solution. The following day found the dressing of the stump so saturated with pus that it had to be changed before proceeding. When this was done the shoulder was thoroughly cleansed, the patient given *chloroform* after the usual precautions, and the Esmarch tourniquet applied as in the preceding case. We had

some doubt about the probability of being successful in controlling the hemorrhage in this way in this case, on account of the thickening and density of the tissues encircled, but it was quite as successful as in the previous case; almost no blood being lost. The incision through the deltoid found the periosteum loosely adherent to the diseased humerus; the head of the bone was freed and brought out at the incision, and the muscular tissues cut as high as they could be and still leave a proper covering for the wound. The axillary glands were enlarged, and two or three that were exposed were snipped out, but it was not thought that the condition of the patient would justify the extensive dissection that would be necessary in order to remove all the diseased tissue. The arteries were ligated, the tourniquet removed and the venous oozing controlled by the application of gauze pads wrung out of very hot two per cent *lysol* solution. The wound was closed with three deep and a line of skin sutures of catgut, and dressed with plain gauze.

The boy rallied from the operation surprisingly well, and progressed better than the first case, which had seemed, on the whole, more promising. The pulse reached 92 once or twice during the week following the operation, while the temperature never went above 99.6°. The dressings were removed for the first time on the tenth day, the wound found nearly healed, and progress to complete recovery was uneventful.

As the forces of nutrition were directed into proper channels the boy rapidly improved in health and appearance, and left us to begin a second and happier boyhood. Nothing has been heard from him since he left us, but it is not difficult to imagine that living must seem like a new revelation to him after carrying the burden and enduring the drain of that stump so many years. The interest of the first boy operated upon in this second case was very deep and his attention unremitting. The two boys came from widely separated parts of the province, and knew nothing about each other before they met at the hospital, so it was remarkable that they came at the same time.

Both of the boys and their fathers attended prayers when they were able, and the evangelist had frequent talks with them, but while we know that they were deeply moved by the truth they heard under such favorable conditions they had not declared themselves believers when they left. However, to relieve two such cases gives enough satisfaction to compensate for the drudgery of much routine work.

*American Board Mission, Foochow.*

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## THROMBOSIS AND RIGORS COMPLICATING TYPHOID FEVER.

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By FRED. H. JUDD, M.D., etc.

During the past few months the following cases of interest have come under my notice and seem worth recording. Out of six cases of typhoid fever—all in adults between thirty and forty-five years of age—three presented nothing noteworthy, but the other three developed thrombosis in one or more limbs.

## CASE I.

CASE I. had had typhoid in Britain four years ago, and during recovery had developed thrombosis and phlebitis in the left leg with pain and œdema of such severity that he felt the effects of it for over a year.

Last October, after a week of malaise and headache, he took to his bed, and after a mild course, during which the temperature never exceeded 103° F., the fever abated. From the 19th to the 30th day nothing of note occurred; the patient humorously lamenting that his case was so lacking in medical interest. The temperature was, however, constantly about .5° or 1° F. above normal, and during the last four days there was general indefinite uneasiness in the legs, especially the left, but no severe pain. On the 30th day the temperature rose to 100.6°, and next day I found the long saphenous veins in both legs thrombosed from the ankle to Scarpa's triangle. The day following discomfort in the arms made me examine them, and the anterior ulnar and basilic veins in the right arm and the median and median-basilic veins in the left were found to be in a similar condition. The evening temperature kept over 100° during these four days and then gradually fell, but it was a fortnight before it was really normal. Coldness was felt in the extremities, especially the legs, but there was very little tenderness, even along the veins and no œdema, except in the fingers. On the 39th day Dr. Edwards (formerly of Tai-yuen-fu) saw the case. The left arm had cleared up by then, but he confirmed the diagnosis with regard to the other limbs, though the vein in the right leg was somewhat smaller. The thrombus in the right arm had vanished by the 55th day and the legs were clear a week or so later.

The circulation in this case was conducive to thrombosis, for during the second week of fever the pulse rate was under 90, and during the third and following weeks was between 60 and 65. It was not small, but very compressible. A mixture of *ammonia* and *nux vomica* raised the pulse to 80, but caused perspiring, which was very uncomfortable in the motionless condition he had to remain in, and so was not continued long.

## CASE II.

CASE II. had been suffering for some weeks, before the onset of the typhoid fever, from chronic enteritis resulting from exposure and bad food while crossing hostile Honan. The fever was fairly severe from the com-

mencement, the temperature only varying between 103° and 104.8° for several days, and by the middle of the fourth week it only fell to 100° in the morning remissions, while in the evenings it was frequently 103°. During this time he was taking about fifteen grains each of *quinine* and *salol*. *Antikamnia*, given occasionally in five or ten grain doses, gave him considerable relief when the skin was hot and dry. Though there was not much abdominal distension his greatest discomfort arose from flatulence, from which *sal volatile*, *cajuput oil*, *carbolic acid*, and *charcoal lozenges* relieved him, especially the last.

On the 26th day a new complication arose. About 4 p.m., while the temperature was over 102°, he had a sharp rigor, like a short attack of ague, attended with much distress and vomiting. The shivering lasted half an hour, and at the end, as soon as a thermometer could be trusted between his teeth, the temperature was 150.6°. Then followed profuse perspiration. An hour later the whole attack was repeated. These were the first of a series of similar rigors occurring on the 29th day (4 a.m.), 30th (9 p.m.), 31st (2 p.m.), 34th (noon), 36th (noon), 37th (2 a.m.), and 39th (3 a.m.). Of these the later ones were less severe, and the shivering stage only lasted about ten minutes. The temperature at the height of the rigor varied in the different attacks between 103° and 106.2°, and usually fell to below what it was before the shivering began. The average temperature was meanwhile steadily falling, and after the last rigor, during which it rose to 104.6, it dropped to normal for one day. It then rose gradually and went through a course like a short mild attack of typhoid, reaching normal again on the 52nd day. On the 28th I was called before breakfast to what was thought to be perforation. There was much pain in the left inguinal region and Scarpa's triangle. I could detect no further evidence of perforation, and fomentations followed by the application of *glycerine of belladonna* gave such relief that nothing more was thought of it after the next day. Six days later (the 34th day) Dr. Milles, who came to see the case with me, suggested that the rigors might be due to thrombosis, and on looking there we found a firm cord as thick as a pencil along the course of the left femoral vein. There was, however, no œdema and little tenderness. Thinking that this thrombosis caused the rigors we diminished the *quinine* from thirty grains to ten grains *per diem*, but when they continued to recur I pushed it again up to forty grains a day, and they at once ceased, perhaps, however, only coincidentally. The long saphenous vein was also palpably thrombosed, but unfortunately I made no examination of the short saphenous vein. This condition gradually cleared up, though there was temporary and unaccountable œdema of the left foot on the 44th day, disappearing after the 45th. Next day a small inflamed and tender spot, the size of a ten-cent piece, was noticed in the right axilla, but no signs of thrombosis. This, with application of

*glycerine of belladonna*, cleared up in a few days, and so did a similar but more extensive and deeper patch over the inner side of the right elbow which developed on the 59th day.

On the 54th and 55th days the temperature rose from subnormal to 101.4°, and there was deep pain with tenderness on the outer side of both thighs, though nothing abnormal could be detected.

Two days later the temperature was normal again, but pain was complained of in the left popliteal space extending down the back of the calf, and the short saphenous vein was found solid, firm, and tender. This thrombosed vein was palpable for a fortnight longer, and though the patient in other respects was well enough to get up and walk about, œdema of the left foot and ankle came on whenever he attempted to do so. By the 90th day, however, he was able to walk about a little, and went home on furlough.

Beside the thrombosis and rigors the patient suffered from delusions and hallucinations very similar to those of general paralysis of the insane. These came on during the second month, and were distinct from and quite unlike the fever delirium which he had during the first month. They were fixed delusions, in accordance with which he tried to act and expected others to act.

He "had been knighted," "was a millionaire," which "excited the jealousy of some who were seeking his life," but from whom he defended himself with wonderful "electrical apparatus;" his "food was drugged," but the "Queen's own physician attended him," and unfortunately countermanded some of my orders, etc., etc. Though these lasted several weeks and seemed to become more fixed, in the end they cleared up rapidly in a few days; and though the patient has vivid recollections of the delusions he has completely recovered from them—we believe very largely in answer to prayer.

### CASE III.

CASE III was much more severe from the commencement and throughout the illness which lasted over four months. The temperature frequently reached 105° and did not get near normal till the 41st day. There was a good deal of pneumonia, especially in the right lung, which had been previously affected with pleurisy, leaving the pleura much thickened. No marked enlargement of the spleen was noted till the 7th week, but during the 5th week there was much pain and tenderness in the hepatic region, and the liver enlarged downwards till it was fully three fingers breadth below the costal margin and in the midline to within an inch of the umbilicus. There were no rigors, however, no signs of abscess, and no history of dysentery. Fomentations gave relief, but the enlargement did not begin to diminish till the 12th week.

The patient had barely rallied from this severe attack, from which she was scarcely expected to recover, when the temperature began to rise on the

42nd day, and by steady typical steps reached 105.8° on the 5th day of the second attack.

The stools became typical again, and a few days later all involuntary, and with the exception of the rash the second attack was as typical and severe as the first. The temperature fell fairly steadily from the 5th to the 25th day (66th day of illness) and remained normal for a week.

On the 73rd day we suggested a little addition to the diet (peptonised milk and chicken broth), but are glad we did not make any change, for next day the temperature began to rise typically and patient started on a third attack. Fortunately this was much milder, and only lasted three weeks.

At the end of this the 95th day the temperature rose a degree, accompanied by undefined aches in the back of neck, legs, and arms, but especially the right fore arm. Two days later the temperature fell to nearly normal and remained there a week, after which it rose to 100.4°, and on examination the right brachial vein was found thrombosed up to the axilla. A week later the left arm began to ache, and next day, the 112th, the left brachial vein was found to be in a similar condition. On the 129th day, though the thrombosed veins were still palpable, the arms having been free from pain for some days the patient was lifted on to a couch for the first time. She is now convalescent and gradually regaining strength.

These three cases present several points of interest. In none of them was there any acute pain, marked tenderness, or any inflammation or redness along the course of the veins. The superficial veins were the ones chiefly involved as far as could be detected. A sense of stiffness and aching was felt in the middle of some of the limbs, but the mildness of the œdema, and coldness, seemed to indicate that few if any of the deeper veins could have been blocked. In Case III. the aching was most severe during the evening and night, and often most marked in the palms. The condition seems to have been one of primary thrombosis subsequently exciting slight phlebitis, and due more to exhaustion and poverty of the blood than to any changes in the vein-walls. In Case I. the slow circulation (pulse 60 to 65) was conducive to thrombosis, but in Case II. it was over 90 and in the third over 110, though small and soft. In this last case, about three weeks after the thrombosis had set in and before it had cleared up, the slowness of the circulation in the veins on the back of the hand could be easily demonstrated. By drawing one's finger along the veins (against the current) the latter could be emptied between two valves, and on suddenly releasing it the blood would be seen to flow along the emptied vein, distending it as it went. In my own hand the distension along the length (say one inch) was almost instantaneous, but in the patient's hand could be watched gradually creeping along at a rate which must have been less than an inch a second.

It seems a disputable question whether the rigors in Case II. were due to the thrombosis. Against that may be said that compared with the mildness of the symptoms and signs of the thrombosis—little pain, no œdema, etc.—the occurrence of eight or nine distinct rigors distributed over fourteen days, seems out of proportion. They began two days before the attack of acute pain, which seemed to usher in the clotting and continued long after the acute symptoms had subsided. They may have been independent attacks of ague (though there was no malarial history) and similar to a case mentioned in Patrick Manson's "Tropical Diseases," p. 198.

As regards the causation of three such cases occurring in six typhoid patients, nothing definite can be found. All three were fed alike, and took *quinine*, but besides that had no similarities of treatment. The first case needed no medication. The second was chiefly on *salol resorcin* and intestinal carminatives; while the severe symptoms in Case III. called for large quantities of cardiac and respiratory tonics, of which *strychnine*, *digitalis*, and *brandy* did most good. She also took *listerine*, which had a beneficial effect on the character of the stools.

The intervals from first diagnosis to when the veins were clear and normal varied from one to five weeks, but for many weeks after that much walking or standing about brought on œdema and discomfort. The thrombi in the arms seemed to soften and become "absorbed," but those in the legs of Case I. became smaller and firmer as though the clots were becoming organized while the circulation through the vein became re-established.

No signs or symptoms of embolism, or of thrombosis in the cerebral sinuses were noticed; nor were any phleboliths found, though the saphena veins were somewhat varicose.

*China Inland Mission, Shanghai.*





## Medical and Surgical Progress.

### Medical.

Under the charge of Robert T. Booth, M.D.

#### TETANUS, LARGE DOSES OF ANTITOXIN IN.

Most physicians practising in China from time to time run across cases of tetanus, and the great majority have to report that in spite of all treatment the patients have died. Of course in China there are many things that combat successful treatment of cases medical and surgical. A common complaint heard on all sides is that the doctor is not sent for, or the patient brought, until the last moment. Early treatment is important in all cases, and in none more particularly than in an acute poisoning such as tetanus. Of late years with the introduction of serum-therapeutics some hope has been introduced into a hitherto almost hopeless sphere. According to the more or less generally accepted view as regards the pathology of tetanus, the poison, manufactured at the seat of inoculation, has a selective affinity for the cells of the nervous system; this affinity being greater for the spinal cord than for the brain. The poison becomes "fixed" in the nerve cells. The cells of the nervous system have a much greater affinity for the "toxin" than for the "antitoxin." The latter, it is held, will confer an immunity if exhibited before the disease has developed, but it has little or no power of combating the disease when once the symptoms have appeared. This may be considered the "rationale" of the intracerebral treatment of the disease.

Writing in the *B. M. J.* of November 24th, Dr. S. H. Long says: "Having carefully watched the records of cases of acute tetanus treated with antitoxin published during the last few years, I have been struck by the comparative smallness of the dose that has been given in nearly all cases, and I have rightly or wrongly con-

cluded that herein lay part of the cause of the continued high mortality of the disease." He then goes on to say that as he had never seen any evil result from the administration of considerably larger doses, he determined at the next opportunity to give the antitetanic serum a fair trial subcutaneously before resorting to the intracerebral method of administration. He then reports a case of which there could be no doubt that the diagnosis was acute tetanus. The method of treatment was as follows: "The first dose of 10 c.cm. was given subcutaneously in the loin at 1:00 p.m. The prick of the needle caused another general spasm, on which account the succeeding injections were given under *chloroform*, which generally although not always prevented further general spasms from this cause. Doses of 10 c.cm. were injected hypodermically, uninterruptedly every four hours for twelve more doses. Afterwards the injections were continued four-hourly for six more days, but were now given 'per rectum,' which did not cause any more general spasms. They were then given eight-hourly for three more days. In all thirteen injections were given hypodermically and fifty-five 'per rectum,' making a total of 680 c.cm. of serum used." It is interesting to note the relation of the number of spasms to the injections.

The maximum daily number of spasms occurred on the fourth day after the serum treatment was commenced, after which there was a gradual decline in their severity and number to the zero line five days after. It is also interesting to note that in this case the "toxin" had had seven clear days to produce its effect before serum treatment was begun. We may learn from this case that cases of acute tetanus

can be successfully treated with anti-tetanic serum if it is given in SUFFICIENTLY LARGE DOSES AND FREQUENTLY REPEATED, and in the second place, it suggests that it is not probably necessary to resort to the intracerebral method, provided the serum can be got in sufficient quantity. Thirdly it emphasises the fact that the chances of ill-effects from overdosage are remote. There is one drawback to the use of such immense doses, even if we could get the quantity out here in China, and that is the cost. The total cost in the above case was \$120. There are not many mission hospitals which can afford such a sum!! A much cheaper method of treatment, and one which can be prepared at a moment's notice, is that introduced by Bacelli. He advocates the use of a 2% aqueous solution of *carbolic acid*, 2 c.cm. of which are injected into the muscles every four hours. Ascoli in a manuscript states that in thirty-three cases there was only one death, and in this the treatment was less energetic. *Morphia* is used during the first few days to allay insomnia and hyperesthesia. This method of treatment is rational, as of all the antiseptics none act more effectually on the bacilli of tetanus than does *carbolic acid*. In addition it has the advantages mentioned above of being cheaper, and at the same time within reach of even the most remote hospital or mission station in China.

#### APOMORPHINE AS A HYPNOTIC.

There is hardly a hypnotic that one can name to which there is not some great objection, which is only tolerated on account of the other important qualities. *Bromides* are depressing. *Chloral* can only be given in certain conditions of the heart. *Sulphonal* takes a tremendous time to act. *Trional* is not as satisfactory as reports lead one to believe. The use of *morphine* as a hypnotic, pure and simple, is not to my mind justifiable, considering the great danger of the

formation of the *morphine* habit, even if it produces no effect on the heart. Hence when one reads of the discovery of a new drug, which can be given in small doses, which acts rapidly, and which produces no disagreeable after-effects, which has no cumulative effects, which does not produce a craving, and even if it did, the effects of a large dose would be sufficient to deter even the bravest or one most desirous of satisfying the craving; one cannot but hopefully test its efficacy and trust it may be successful. Douglas in Merck's Archives, June, 1900, points out the fact hitherto little known to physicians, that *apomorphine* acts as a PROMPT and EFFECTIVE HYPNOTIC if injected subcutaneously in doses of about 1/30th of a grain, more or less. The dose should be adjusted as to be large enough to produce sleep, and at the same time not large enough to produce nausea, and this being about one-third of the ordinary dose it is quite harmless. In mild insomnia, and in furious delirium it has been found to produce sleep in twenty-five minutes. The sleep is refreshing and restful, and no disagreeable after-effects follow. If a delirious patient refuses to go to bed, *apomorphine* will cause him voluntarily to lie down, and sleep will follow in a few minutes. There is no possibility of a drug habit being formed, as it becomes a vigorous emetic if the dose be increased. There are no cumulative effects. The small hypnotic dose accelerates the heart slightly.

It was accidentally discovered that a saturated solution of *boracic acid* renders the drug inert in both its hypnotic and its emetic effects. During four years *apomorphine* was given to 300 patients, and the hypnotic effect failed or was slight in two or three cases only. In such rare and exceptional cases it was also found that the emetic effect did not follow even large doses. Note the dose. One-thirtieth of a grain. Dr. Adams in *B. M. J.*, November 10th, mentions giving a fifteenth of a grain.

## TETANUS—TREATMENT.

Having introduced the subject of tetanus into this number's contribution, I cannot do better than refer to an exceedingly able and interesting article in the October number of the *Annals of Surgery*, written by Dr. Alexis V. Moschcowitz of New York. In this article he reviews some 338 cases of tetanus treated by the intracerebral method of injecting the anti-tetanic serum. It would take too much space to give his article "in extenso," however, I shall try and give the gist of it, in the hope that it may lead to the perusal of the article itself. He points out that early treatment is essential. Some say that unless treatment is commenced within the first thirty-six hours it is of no use. From a study of his cases and those of others taken from all the recent literature on the subject, he shows that the shorter the incubation period the more severe is the case, and the more probable a fatal termination. Then follows a classification into 'very grave,' 'grave,' 'medium grave,' 'mild,' and 'very mild' according to the length of the incubation period. He then passes on to the "rationale" of the treatment and shows that the points to be aimed at are: (1) to destroy the bacteria at the seat of infection, (2) to eliminate the toxins already absorbed into the system, (3) to neutralize and render innocuous the toxins already absorbed, (4) to immunise the body after local infection, (5) to overcome the symptoms induced by the action of the toxins.

I. *The first of these, destroying the bacteria at the seat of infection, is brought about by surgical means.* It has been found in the case of tetanus, just as in the case of diphtheria, that the bacilli remain at the seat of infection; the toxins formed being carried to all parts of the system. The seat of infection is to be thoroughly cleansed. All foreign bodies are to be removed; in fact it is best to cut out the entire place. It is then to be treated with powerful antiseptics, so as not merely to remove the tetanus

bacilli and the spores, but also to remove all saprophytic and pyogenic microorganisms. This latter precaution is very essential, as it has been shown that there is nothing better suited to the growth of the tetanus bacillus than the presence of other microorganisms. Various antiseptics are recommended: (1) *Corrosive sublimate* in solution 1: 1000, to which has been added 5% *tartaric acid* or 0.5% *hydrochloric acid*. (2) 2% solution of *carbolic acid*. (3) 2% solution of *kresol*. (4) Highly tinctured *iodine*. In place of using these the author suggests that the entire wound should be thoroughly cauterized. At other times it is a question if amputation in case of a limb should not be performed; this is of course only where the wounds are large, and it is utterly impossible to render them antiseptic.

II. *The second indication for treatment*, to eliminate the toxins already absorbed into the system, is met by diuresis, catharsis, diaphoresis. In addition the author suggests that venesection should be done and a certain quantity of blood removed, taking care, however, to inject an equal quantity of normal saline solution.

III. *The third indication, viz., to neutralize and render innocuous the toxins already absorbed*, is met by the introduction of serum of animals rendered immune to the disease. The experiments of Behring, Tizzoni, Cattani, and Kitasato, have shown that it is possible not only to immunise animals against infections which are to follow immunization, but also to avert a fatal termination in cases of infection, provided the attempt is made within reasonable time. Hence serum of immunized animals has not merely an immunizing power but also a CURATIVE power. How does this serum act? There are three theories on this question: (1) Behring, Kitasato, and Seli, say it acts chemically. They have shown that toxins mixed in test tubes with the proportionately required amount of antitoxin, and then this mixture injected into an animal, produced no

tetanus. Therefore Behring concludes that theoretically all cases of tetanus are curable if a sufficient quantity of *antitoxin* in sufficient concentration is introduced. (This conclusion is borne out by the case referred to above.) (2) Buchner on the other hand, says the cells already infected cannot be freed from the inherent poison, but regards the curative action of the *antitoxin* (which he does not deny) merely as an immunizing action on such cell territories as up to the introduction of the *antitoxin* into the body have not been affected by the poison. (3) Ehrlich's "Side-chain," or *Seitenketten* Theory. No matter what theory is adopted we can conclude (a) it is possible to immunize animals by injection of attenuated toxins or attenuated bacteria, (b) blood serum of such immune animals will prevent an outbreak of tetanus in animals to be infected, (c) blood serum of these immunized animals can cure already infected animals, provided only it is used sufficiently early and in sufficient amount and concentration. This is done in experimental tetanus why not in the human being? Moschowitz then says: "The principal cause of failure lies in the defective powers to diagnose tetanus sufficiently early. Usually, as Marchand tersely puts it, 'The patient with tetanus symptoms is not beginning to have tetanus, but is beginning to die of tetanus.'"

Hence in treatment we must aim at three things: (a) neutralize toxins already in the body. This is done by the timely and proper administration of *antitoxin*. (b) Prevent toxic affect in hitherto unaffected part. If Buchner's theory is correct we can also fulfil this. (c.) Withdraw toxins from affected cell territories. This is more difficult since the parts affected are the brain cells, and more especially those of the spinal cord. Hence to meet this two methods have been introduced—The "intracerebral" method of Roux and Berrel, and the "subdural" of Blumenthal and Jacob. But these latter conclude after a num-

ber of cases and experiments that their method is ineffectual, and they also warn against too hopeful a reception of Roux and Berrel's method.

With regard to the risk of damage to the brain by the injections, Moschowitz says: "This much has been brought out with definite certainty, that the intracerebral injection is practically devoid of danger, provided it is carried out with regard to rigid asepsis and provided that the process of injection is not done with undue haste."

IV. *The fourth indication* for treatment was to immunize the body after local infection. This on Buchner's theory is narrowed down to the immunization of unaffected cell territories. However, broadly speaking, it involves the injection of the *antitoxin* as a prophylactic when we have reason to suspect the subsequent possibility of tetanus developing.

V. *The fifth indication* was to overcome the symptoms induced by the toxins. The patient should be isolated and kept free from all unnecessary noises and jars. Then reduce the reflex irritability by the use of suitable drugs, e.g., *morphine*, *chloral*, *bromides*, *hyoscyamine*, *paraldehyde*, and *physostigma* have been mentioned.

Since the introduction of the serum-treatment of tetanus the mortality has been reduced from 90% to 40%.

The article concludes by mentioning, for the sake of completeness, two other methods of treatment: 1. Krokiowitz, which consists in the injection of an emulsion of brain substance. 2. Baccelli's method mentioned above.

#### TREATMENT OF SCIATICA.

The treatment of sciatica has at times taxed the skill and ingenuity of most medical men, by the obstinate way in which the disease resists almost every known method. The patient has been heated up with Corrigan's button, or the actual cautery, or has been cooled down by the application of ice. Hypodermic needles without

drugs, as a means of acupuncture or with drugs, e.g., *morphine*, *osmic acid*, etc., have all been tried and have often proved ineffectual. Hence it is with pleasure and a certain feeling of hope that we hail the advent of new means of curing this often obstinate affection. To most of us *methylene blue* is known merely as a staining reagent, although recently we have seen it recommended as a drug in various affections. In the *B. M. J.* for November 10th, there is an interesting cutting from a continental journal. It refers to the use of *methylene blue* as an analgesic in twenty-seven cases of sciatica. In eight cases it failed entirely, in six cases the pains marvellously disappeared in five days, in the remaining thirteen the sciatica resisted the treatment for several weeks, but the pains were less frequent, and the patients were enabled to sleep at night. Three to six capsules were given daily. Each capsule contained 0.45 gram (about 7 grains). Slight gastric disturbance occurred, but there was no serious inconvenience; and any slight pain during micturition was easily met by adding a little nutmeg to each dose.

Certain precautions in the administration must be taken. The patient must be warned of the change in the color of the urine, also that there may be some vesical spasm and dysuria. The drug must be given absolutely pure, or otherwise gastric, toxic, and diarrhetic troubles will follow.

The action of the drug causes first a numbness, passing gradually into analgesia. Its action is rapid, but not of long duration, hence the use of the *blue* must be continued as long as any pain exists. It has also been suggested that the drug might be exhibited hypodermically, but up to the present no reports are at hand.

*Salophen* is another drug which has been used in the treatment of obstinate sciatica. This drug is administered intramuscularly; each injection containing one gram of *salophen* in 10 c. cm. of water. In two cases this dose was

injected into the gluteal muscles every other day. After the 6th injection the pain was greatly lessened, and after the 11th it had completely gone. The patients were kept in bed until after the 15th injection. Thirty injections were given in all, and then the patients left the hospital well. Fourteen months later they were seen again and were quite free from pain, and had been so since treatment. *Salophen* is supposed to split up into salicylic acid (of which it contains 51%) and acetoparamidophenol, when taken into the body.

Whilst talking of the treatment of this complaint it is interesting to note a paragraph in the *Medical Review* for November. A woman aged forty-five had suffered from sciatica for over five years. *Sedatives*, *counter irritants*, and *alteratives* were without effect. Whilst walking she was bitten by a small snake just above the left ext. malleolus. There was extreme pain and a swelling of a firm character which involved the entire limb. Coffee and alcohol were given freely, and in a few days dangerous symptoms ceased. The limb had at first a livid appearance, and then assumed a jaundiced hue. In three weeks she had entirely recovered from both the snake bite and the sciatica.

#### CACODYLATE OF SODIUM.

In treatment of disease with *arsenic* it is sometimes necessary to increase the dose up to a quantity which is dangerous to life and yet which scarcely produces the desired effect. For example in the treatment of chorea large doses of arsenic are alone of any use. Murray of Newcastle in his "Rough Notes on Treatment" refers to this, and mentions that his usual line of treatment is to push the arsenic in doses of fifteen minims for seven or ten days. Whether the case is cured or not the drug has to be stopped, or else poisonous symptoms supervene. Means of giving large doses of his valuable drug, without producing the

evil effects have been long wanting. During the last two years French physicians have been introducing a new drug which fulfils these requirements. *Cacodylate of sodium* is the subject of an interesting article by Dr. Wm Ewart, reviewed in the *Medical Review* for November, 1900. *Cacodylate of sodium* is an arsenical organic compound. It contains 48% of *arsenic*, and is relatively free from irritating and poisonous properties. From *arsen-iuretted hydrogen*, as  $H_2$ , by the substitution of *methyl* for *H* is obtained a *dimethyl arsenide*, *cacodyle*, which is highly poisonous and has an offensive smell. By oxidation, *oxide of cacodyle* is obtained, by further oxidation the metal passes into the pentad condition and becomes *cacodylic acid*. In *cacodylate of sodium* the odour and the virulence are lost. It forms a tasteless, soluble, and deliquescent solid. It may be administered by the mouth three or four times a day in one-half grain doses, which may be increased. If given in pills they must be specially prepared, owing to the deliquescence of the salt. It is also administered by the rectum, and by this way is avoided the garlicky odor which sometimes follows the administration by the mouth. The most scientific, and in many ways the most effective, is by hypodermic injection. One-third of a grain dissolved in ten minims of water, is a fair initial dose, which may be increased up to one grain or more. The maximum dose is not yet known. The drug may be given for long periods. This drug has been given in pernicious anæmia, chorea, malaria, and Graves' disease. Continental authorities say that in phthisis it has given better results than any that have been obtained by other methods. In the same number of the *Medical Review* there is an interesting article on a case of multiple sarcomata treated by hypodermic injections of *cacodylate of sodium*. Before treatment one of the tumors was partially excised and examined microscopically, and proved to be embryonic sarcoma con-

taining vessels of new formation. *Cacodylate of sodium* was injected daily into the buttocks. Five centigrammes ( $\frac{3}{4}$  gr.) was injected first and gradually raised to 12 cg. ( $1\frac{1}{2}$  gr.). Improvement was slow, but after fifty injections the tumor almost disappeared and the injections were suspended for ten days. Afterwards thirteen and twenty cg. (3 gr.) were given daily. Mere spots marked the site of the cutaneous tumors. The cure has been maintained for six weeks (August 7) and the patient continue, to take an arsenical mineral water. In the same article is mentioned a case of multiple non-melanotic sarcoma treated by *arsenate of sodium* injections. It is interesting to note that although it produced a considerable effect yet after a time further growths occurred, which were unaffected by the simple *arseniate of sodium*. It seems as if the more complete arsenical treatment possible by the use of *cacodylate of sodium* instead of *arsenate of sodium* effected a more permanent improvement.

Whilst on the subject of administration of this drug, it is important to learn the disadvantages as well as the advantages of its use. M. Breton in the *Gaz. des Hop.*, June 19th, 1900, calls attention to a scarlatiniform rash following the injections of this drug. As a general rule tolerance of this drug is shown whether it be administered by the mouth or hypodermically. M. Breton quotes a case of a man who was being treated for commencing tuberculosis of the right apex. An attack of erythema followed each injection. During the night following the injection, which was given in the evening, a burning sensation came in the skin, and a general pruritus prevented sleep. Twelve to fourteen hours after the injection erythema appeared on the regions of pressure, the back, shoulders, and buttocks. No rise of temperature or other symptoms followed. Cases of exfoliative dermatitis have also been reported as following the administration of *cacodylate of sodium*.

PERMANGANATE OF POTASSIUM

AND OPIUM POISONING.

The treatment of opium poisoning is a subject which is not merely interesting, but of great importance to every missionary, medical and otherwise, in China. Methods differ according to the men. Our custom has been for some time back to treat with *permanganate of potassium*. In connection with this let me quote some points from a monograph by Dr. W. O. Moor of New York. He says:—

(1.) "One grain of the antidote (*potassium permanganate*) in one ounce of water, per os, for each grain of *morphine*.

(2.) "One grain of *permanganate* in 1 oz. of water for each ten grains of opium.

(3.) "One grain of the antidote for each drachm of *laudanum*.

(4.) "If the quantity of poison ingested cannot be ascertained, eight or ten grains of the antidote dissolved in an ordinary glassful of water should be given at once, and this dose repeated once or twice, at intervals of thirty minutes.

(5.) "A weak *permanganate* solution, about one grain in a tumblerful or half a tumblerful of water, should be administered every thirty minutes during the entire stage of opium narcosis, and even for some time afterwards at intervals of one hour.

(6.) "One grain of *potassium permanganate* dissolved in a teaspoonful of water should be injected hypodermically every thirty minutes, with simultaneous gentle massage near the site of the injection."

The above points are interesting and useful. However when opium suicides are brought to our hospitals, or when we are sent for to go to a case, it is usually impossible to find out how much opium has been ingested. Our custom has been to wash out the stomach with a solution of *potassium permanganate*, using the siphon stomach-tube. After washing out repeatedly

until the solution flows out unoxidised, a small quantity is left in the stomach to be absorbed into the system. This method has the advantage that any opium remaining unabsorbed in the stomach is washed out. The patient's heart is carefully looked after and necessary drugs are administered hypodermically or rectally or both.

POTASSIUM PERMANGANATE AS ANTIDOTE  
TO NUX VOMICA POISON, ETC.

In connection with the use of *potassium permanganate* as an antidote for opium, it is well to note that half a grain to a litre of water will convert *nux vomica*, taken in poisonous dose, into a harmless compound. The stomach should be washed out with solutions 1 to 1000.

THE MOUTH AS A CAUSE OF STOMACH  
AFFECTION.

There has been and is still a tendency to underrate the connection between the mouth and the stomach in discussing the causation of disease in the latter organ. By many the mouth has been looked upon as a kind of indicator of the condition obtaining in the stomach, and scarcely any attention has been paid to the fact that in very many cases the causation of the gastric trouble is to be found in the mouth.

In even the most recent publications on the subject of gastric disease, in articles written by men in the front rank of the medical profession, the mouth is referred to as an indicator of stomachic trouble rather than as a cause; and even when some passing reference is made, the subject is quickly dismissed and no importance attached to it.

One of the most recent, and at the same time one of the most up-to-date publications is the *System of Medicine*, edited by Clifford Allbutt. In the article on "Dyspepsia," written by no less an authority than Sir Lauder

Brunton the only relationship mentioned between the teeth and the digestive process is that of effectiveness of mastication or the reverse. Vol. 3, page 395. Again in the same article when mentioning the action of microbes in the causation of disease, he says: "Imperfectly cleansed dental plates or carious teeth may form a breeding ground for microbes which are carried down to the stomach." This would seem as if he intended to suggest that these microbes gave rise to dyspepsia; but lest we should hastily come to that conclusion, he goes on to say: "Frequent swallowing of saliva certainly seems to give rise to dyspepsia occasionally, and possibly the dyspepsia which has been observed along with dental plates may really have been due to profuse salivary secretion caused by the irritation they produce." He seems to think that the constant swallowing of microbes is a trivial and unimportant matter. He then says: "I have seen at least one case of dyspepsia in which everything had failed to give relief, until a pharyngeal catarrh, from which the patient suffered, and which gave rise to swallowing of mucus, was treated by removal of some adenoids; after the operation the dyspepsia disappeared." He seems here to lay stress on the swallowing of mucus, an important factor, no doubt, but he lays no stress on the probable microbes that were present in the pus.

During the past few years, however, attention has been drawn to the inter-relationship between the mouth and the stomach, and considerable light has been thrown on the subject. In the *Practitioner* for December, 1900, Wm. Hunter, M.D., F.R.C.P., has an exceedingly interesting article on "Oral Sepsis" and its connection with various disorders, viz., *septic gastritis*, *toxic neuritis*, and other septic conditions. It is the points connected with oral sepsis and gastric disease that we would call attention to. He shows that oral sepsis is a common condition, a fact that most of us will agree to

form our experiences both at home and here in China. There is no one diseased condition which is the cause of oral sepsis. The causative conditions include a whole series of local inflammatory and suppurative states, met with in the mouth and adjacent parts.

*In the mouth.*—Dental necrosis in all cases, gingivitis and stomatitis of every degree of intensity—inflammatory, pustular, ulcerative, sloughing, and gangrenous; periostitis; suppuration around decayed teeth; pyorrhœa alveolaris; deposition of tartar.

*In the jaws.*—Periostitis, alveolar abscess, osteitis, osteomyelitis necroses, maxillary abscess.

*In parts adjacent to the mouth.*—Tonsillitis, pharyngitis, otitis, glandular enlargements, cellulitis, post-pharyngeal abscess, etc. In all these conditions there is one common factor, i. e., the presence of pus organisms. The sepsis connected with diseased teeth is of a particularly virulent character, much more so than that due to pus derived from soft tissues. It is really connected with diseased bone, and from experiments, it has been shown that there is no more virulent pus than that derived from such a source. Bacteriologically the organisms found were as follow:—

"*Bacillus gangrenæ pulpæ*, which possesses the power of producing gangrene of the pulp and of effecting softening of a tooth, even in an *alkaline medium*. Its frequency as compared with other organisms was 95.3%.

<i>Staphylococcus pyogenes aureus</i>	34.0%
<i>Streptococcus pyogenes</i> ...	25.2%
<i>Staphylococcus pyogenes albus</i>	18.6%
<i>Bacillus pyocyaneus</i> ...	9.3%
<i>Staphylococcus pyogenes citreus</i>	4.6%

with nine other organisms, mostly harmless, in varying frequency."

The presence of these organisms does not constitute disease. It is a question of dose and resistance.

He then shows the effects of oral sepsis.

1. Gastric and intestinal.



2. Remote, *e.g.*, acute osteomyelitis, empyema, etc.

3. Toxic.

It is to the gastric effects that we wish to call attention.

These are those commonly associated with and usually ascribed to gastric catarrh, and do not need enumerating, so well are they known to all.

These are not necessarily due to a pyorrhœa alveolaris, but are produced by any form of oral trouble due to septic infection from a diseased tooth, especially when that infection is aided by such potent adjuncts as ill-fitting neglected tooth plates, bridges, caps, or metallic stopping. There being a continuous source of infective generation going on around those teeth one may have infection occurring lower down in the gastric mucosa and this condition he calls septic gastritis, the term septic accurately describing the nature and the cause of the catarrh.

He then draws attention to the two generally received theories of the relation between dental disease and indigestion.

1. Mechanical.

2. Bad teeth denote bad nutrition, and bad health, *i.e.*, they are the result rather than the cause.

He then advances a third theory. Dental disease as a cause of *indigestion, in consequence of being a continual source of septic infection and septic gastric infection.* The relationship is shown by the following:—

(1). There is a limit to the capacity of the stomach to resist indefinitely for periods of years, the continuous presence of pyogenic and other organisms derived from necrotic conditions of the teeth.

(2). Its powers of destroying such organisms, although great, are never complete even in health, and are due solely to the presence of free HCl.

(3). These powers become progressively weakened when from any cause an increased and continuous supply of organisms is associated with a

diminished and continually lessening acidity of the gastric juice.

(4). These two conditions are those produced by chronic cario-necrosis of the teeth.

(5). In time the catarrh of the stomach, so common a sequel of imperfect dentition—possibly of a simple irritant nature to begin with, the result of fermentation—becomes septic in character, becomes really a septic gastritis.

(6). Eventually it may lead to deeper seated changes which always result from chronic catarrh, *viz.*, atrophy of secreting structures, with increase of fibrous tissues.

The continuous swallowing of pus organisms is not tolerated indefinitely by the mucosa of the stomach. Only a proportion, about two-thirds, is destroyed by the gastric juice, and that only for an hour or two immediately after food.

Thus we get *diminished resistance* on the part of the stomach and *increase of dose* owing to the continuance of the dental trouble. In addition to the resulting indigestion and dyspepsia, Hunter goes on to point out that an actual infection of the mucosa with pathogenic organisms may occur. A septic catarrh is set up, which is sustained by constant influx of fresh material, and if this is continued long enough, it leads to usual effects of a glandular catarrh, *viz.*, glandular atrophy and increase of interstitial tissue around.

He proceeds to quote a number of cases and shows that he has demonstrated the septic nature of the gastric trouble, the catarrhal exudation vomited being loaded with pus organisms.

Having thus dealt with the gastric effects produced as a result of oral sepsis, Hunter proceeds to refer to the toxic effects which may ultimately supervene, a form of peripheral neuritis, and quotes cases to show their connection with the toxin and the connection of this latter with the septic condition of the mouth.

We have simply wished to emphasise the fact that in looking on the mouth merely as an indicator of the condition existing in the stomach we are overlooking the more important fact that the state of the mouth is in many cases the source, the cause, of the disease and not the result.

Dyspepsia and stomach diseases are exceedingly common in China. There are many causes to which we may refer as the source of the trouble. The large quantity of food taken at a time, the superabundance of one kind of food, large quantity of tea consumed, the character of wine usually drunk (almost pure alcohol), and so on. On looking at the mouth we find another cause in the chronically inflamed throat (due to hot drinks in many cases) in which pus organisms are plentifully cultivated, and thence find their way into the stomach.

The line of treatment to be pursued is evident.

#### IMMUNITY.

In the Editorial Notes of the *Medical Review* for September, 1900, the nature of immunity from the standpoint of Ehrlich's hypothesis is ably summed up. This theory explains as no other has done, some questions which have perplexed the scientific world for some time. What was the explanation of the difference between active and passive immunity, i.e., between the immunity produced by repeated injections of toxins or of bacteria, and that produced by the injection of serum containing anti-bodies already formed? Ehrlich's theory comes to our help here. According to this hypothesis a molecule of toxin is composed of two distinct atom groups, the one unsatisfied—the "haptaphore" group—is constant, stable, and capable of combining in constant proportion with *antitoxin*; the other—"toxophore"—unstable, readily deteriorates, and on it the injurious effect of the toxin depends. The combining power of the "haptaphore" allows it to unite with

"toxophore" to act. The "haptaphore" acts as an anchor for the "toxophore." If this anchor is destroyed, i.e., if the unsatisfied atom is satisfied, its combining power is destroyed, and so the toxin is rendered harmless. We shall first see how this applies to the formation of *antitoxins*. Ehrlich considers the living protoplasmic molecule as consisting of two distinct parts. A central atom group—"leistungskern"—comparable to the Benzene ring and certain lateral atoms or side chains—"seitenketten"—which having unsatisfied affinities, can fix other unsatisfied atom groups and so bring them into relation with the central group. The side chains fix atom groups from food molecules and help in the economy of the cell. In the same way toxins are brought into relation with the cell protoplasm. The haptaphore, i.e., the unsatisfied atom of the toxin molecule, unites with such side chains as have corresponding affinities; these then become useless, and more and more are rendered so, so far as the cell economy is concerned. New ones are regenerated, and the ones with the toxins attached, are thrown off and pass free into the tissue fluids. This regeneration is in excess of those thrown off, hence there are more than are necessary for the cell economy, and so the ones in excess are detached and circulate freely in the tissue plasma. They still have affinity for toxins and form *antitoxin*. *Antitoxin* therefore is the side-chains of cell protoplasm regenerated in excess. Note well that this is a REGENERATIVE process. Behring says: "The same substance which when situated in the cell is the necessary condition for poisoning, becomes the basis of cure when it passes into the blood."

With regard to antibacterial substances the question is a little more complex. It has been shown that immunised serum formed by the successive injections of some bacterium, for instance cholera or typhoid, contains some substance which produces

either disintegration (lysogenesis) of the particular bacterium "in vivo" (Pfeiffer), "in vitro" (Bordet), or else causes agglutination. Analogous phenomena have been shown in the case of blood. It has been further shown that this action depends not on a single substance corresponding to *antitoxin*, but on two. For example, heat such a serum to 58° C. it loses its specific power; now add a small quantity of normal serum, and it regains it. If, however, this normal serum has been previously heated to 58° C. no effect is produced. It would therefore appear that the process of lysogenesis depends on the presence in normal serum of some enzyme-like body, which is destroyed at 58° C., plus some substance specially developed in the process of immunisation and analogous to *antitoxin*. This latter body has been called the IMMUNE body by Ehrlich. Further it has been shown that in hæmolysis this substance unites with the red blood corpuscles, e. g., hæmolytic serum was heated to 58° C., and then was allowed to act on red blood corpuscles for a considerable time at a suitable

temperature. On centrifugalising the mixture, it was found that the immune body was no longer in the serum, but in the red blood corpuscles. So much for lysogenesis. In the case of agglutination it was found that this power is retained, even after heating to 58°C., hence it has been suggested that the agglutinin and the immune body of Ehrlich are the same substance.

Now if we compare the effects of toxins and bacteria, we have in each case the formation in excess of a substance which is specific in the fact that it has special combining affinities for the substance (toxin or bacterial protoplasm) used in the injection. The mode of action, however, is different. *Antitoxin* combines directly with the toxins. On the other hand, the ANTI-BACTERIAL or IMMUNE bodies act through a ferment-like substance present in normal serum, which by their combining power they are able to fix

Such briefly are the outlines of Ehrlich's side chain theory of immunity. Although many points still require elucidation and confirmation, it is none the less a valuable working hypothesis.

## Surgical.

Under the charge of Sydney R. Hodge, M.R.S.G., L.R.C.P.

A number of articles have appeared lately on the subject of surgical anæsthesia by spinal cocainisation. Tuffier "has performed sixty-three operations on the lower extremities—perineum, rectum, and urogenital organs under spinal cocainisation absolutely painlessly. Though the after effects were sometimes unpleasant not a single serious complication ensued." This is only broadly true, for Racoviceanu had two fatal cases in renal disease, though the report does not definitely say that the puncture was the cause of death. It is well known, though, that death has occurred, sometimes quite suddenly, where simple lumbar puncture for diagnosis has been employed, no less than fifteen having

been reported. In nearly all these reported cases a cerebral tumour was present, and the cause of death seems always to have been an interruption of the normal communication between the cerebral and spinal fluids, so that on withdrawal of the spinal fluid the hydrostatic equilibrium was disturbed and the respiratory center injured. As the various systems supposed to follow the injection of cocaine into the sub-arachnoid space are not the symptoms of cocaine poisoning by subcutaneous injection, and also follow spinal puncture when no injections are made, it is probable that the drug itself has little or nothing to do with them and can be left out of the count in considering the risks

of the procedure. These risks practically amount only to septic complications due to surgical uncleanness. Such risk, though, is a most serious one, for "the patient who develops an infective meningitis as the result of a spinal puncture with a dirty needle, is absolutely doomed, nor can the surgeon who is responsible for his condition lift his hand to aid him." The method should not be practised upon infants or hysterical patients; it is contra-indicated also in renal disease, heart disease of organic origin, arterio-sclerosis and, I would add, from reports, cerebral disease of any kind. The general conclusion seems to be that the time has not yet come to make much use of the method, and that it is still in the experimental stage; both the extent of the analgesia and the length of time it may be expected to last being uncertain. "One observer failed to obtain anæsthesia in four cases out of 100." When used in cases of labour "the uterine contractions continued with the same frequency and intensity as before, but they were painless and merely gave rise to a sensation of abdominal tension." But as "in the intervals between the contractions the uterus remained in a condition of semi-tension," it would appear that the method should not be used whenever podalic version may be indicated. The full details of this method will be found in *Semaine Médicale* for May of last year, p. 167, and a very good summary of the article will be found in Vol. 3, No. 24 of the *Medical Review*. A useful modification of this method and one that seems to be free from all the objections to the intraspinal operation is the injection of *cocaine* into the great nerve trunks of the part to be operated on. The ease with which the brachial plexus can be anæsthetised makes this method especially useful in operations on the upper extremity, but it can be used with success and comparative ease in herniotomy and operations below the knee. It is described in detail in *Annals of Surgery*, Vol. xxxi, p. 1.

#### TREATMENT OF WENS BY INTERSTITIAL INJECTIONS OF ETHER.

In cases where it is advisable to avoid a scar, as on the face, or in nervous patients who both fear the pain of cutting and refuse an anæsthetic (and such patients are not rare amongst the better class of Chinese) the following method, which probably owes its efficacy to the solvent properties of the ether on the fatty contents of the cyst, is recommended. THE METHOD IS CONTRA-INDICATED WHEN A WEN HAS ALREADY BEGUN TO INFLAME. "Pure *sulphuric ether* is used, and the syringe should be sterilised, and the needle, preferably of platinum, heated in a flame. The site of operation is suitably disinfected, the hair being cut short if on the scalp. The wen is steadied by two fingers of the left hand, the needle is introduced into the orifice of a sebaceous gland on its most projecting part and the piston pressed slowly home, the needle being at the same time moved, so as to break up the contents of the sac and subject them to the action of the ether." In small tumours five or six drops is sufficient to inject, but in larger ones as much as a syringe-full may be used, in successive injections, the syringe being withdrawn and the needle left in situ, so that the *ether* may partly evaporate before each subsequent injection. "In old thick-walled tumours with dry contents the injection may require to be repeated daily for ten or twelve days, but usually four or five operations on alternate days are sufficient. At the end of this time the contents of the cyst assume a soft pasty, almost fluctuating, consistence, while a brownish scab about the size of a large pin's head forms at the seat of puncture. These are signs that the contents are ready for expression. This scab is detached by a probe, and on compressing the wen between the fingers the contents escape in the form of a yellowish liquid or a semi-solid." The sac is then loosened by

a probe inserted between its wall and the surrounding tissues, caught with forceps, and extracted. It is important, for the non-production of a scar, that all injections and subsequent manipulations be carried on through the same orifice as the first injection was made through, and this is readily distinguished by a little ring of redness.

#### FRACTURE OF METACARPAL BONES.

Dr. Carl Beck in the *New York Medical Journal* of August 4th has a useful article on the treatment of displacement of the metacarpal bones after fracture. The chief difficulty is with lateral displacement, a dorsal one being easily kept in place with ordinary splints. His suggestion is a very simple one. Two rubber drainage tubes, placed one on each side of the fractured bone, are lightly pressed into the adjoining interosseous spaces, so as to partly fill them up; they are then kept in position by strips of adhesive plaster. The whole is then immobilised in some dressing; the author preferring moss "a material which, after being dipped in cold water, adapts itself to the contour of the hand like a plaster-of-paris splint, over which it possesses the great advantages of being absorbent and much lighter."

#### HYPODERMIC INJECTION OF GELATINE IN SECONDARY HEMORRHAGE.

Anything which will enable us to deal more satisfactorily with some grave cases of severe hemorrhage from various parts of the body, especially those due to causes which are not amenable to surgical treatment, is a welcome help. The hypodermic injection of gelatine has been used in aneurism, hemophilic hemorrhage, and metrorrhagia, hemorrhagic nephritis, etc., etc. In nearly every instance the hemorrhage has been promptly controlled, but in some the after effects have been so serious as to make

one hesitate to ever use the remedy. One certain and one probable death from uræmia have been reported after the treatment, whilst the formation of thrombi in dangerous situations, increase of albumin in the urine, and intense hematuria and hemoglobinuria are amongst some of the dire after effects. In view of the fact that this treatment has been successful when nothing else availed and in many many cases has had no bad consequence, it would seem justifiable to use it when all other measures have failed. The directions are as follows: "The sterilised gelatine solution consists of 10 gm. of white gelatine in 500 c.c. of a 0.7 per cent sodium chloride solution, and 200 c.c. of this, warmed to 100° F., are injected by a Dieulafoy's syringe under the skin of the thigh or chest."

#### SUTURE OF ARTERIES.

An interesting case of successful suture of a wounded common carotid artery is reported by Dr. Rudolph Seggel and abstracted in the *Medical Review*. A man cut his throat with a razor and bled profusely for an hour. When he was seen, he was found to be suffering from an oblique longitudinal wound in the artery, which was plugged by a clot. "The slit was closed by three interrupted sutures of fine silk, which passed through the adventitia and media, but not the intima. On removing the forceps blood oozed out between the first and second sutures, and three additional sutures were introduced through the adventitia alone." The whole arterial wound was covered with a flap of connective tissue, which was taken from near the sheath of the vessels and fixed to the tissue behind the carotid artery and vagus nerve . . . . The skin incision was left open. The special interest of the case is that although the wound was an oblique one, and such always gape, yet the man did not die from sudden hemorrhage. It is only quite recently that the successful suture of wounded arteries

has been considered practicable. Silk sutures are preferable to catgut, but it is uncertain whether interrupted or continuous sutures are the best. Some include the intima and others do not. On the whole it seems preferable to do so, as the suture is more secure, and it has been shown experimentally that if sutures, which include the intima, cut their way out they always do so externally and do not cause thrombosis. "According to Murphy and Doerfler the suture of oblique or semilunar wounds is not justifiable if they involve more than half the circumference of the artery. For such wounds and for complete transverse

division of arteries Murphy's method is applicable. This consists in invaginating the central end of the divided artery into the lumen of the peripheral portion, which, if necessary, is enlarged by slitting it longitudinally for a short distance. The central end is first provided with three sutures which involve the adventitia and media alone; these are then passed through the peripheral end from within outwards and tied. The margin of the invaginans, or peripheral end, is finally fixed to the adventitia and media of the invaginated, or central end, and the sheath of the vessel is sutured over all."

### Hygiene.

By Katharine C. Woodhull, M.D.

In a recent work on hygiene we find the following: "It is the individual and personal *culture of health* which not only must precede, but which also forms the foundation of public sanitation. The expression, "culture of health," we thought very suggestive. At present much time and money is being expended on the culture of germ disease. This has already done much to stamp out or mitigate some diseases which have long defiantly pursued their deadly course, and many more discoveries will be made in this way which will check the ravages of disease.

But would not the "culture" of health, if pursued with equal zeal and as lavish an expenditure of money and time, result in greatly increasing the sum of human happiness?

Hygiene has also been named 'preventive medicine,' and considering it in this light, it deserves to stand by the side of curative medicine as of as great if not greater importance.

The chemist is bringing his work to a high degree of perfection in providing pure and refined drugs, and they are a great boon to the physician in the work of relieving human suffering.

An old lady once told us of a long illness from which she suffered in her younger days, when her physician had her buy her medicine by the pound. The broken down nervous system from which she suffered the remainder of her life, showed that the work of medication had been rather overdone. But the physician of to-day carries his medicament in smaller, choicer packages, and in acute disease is able easily and safely to assist nature, when sometimes she is bewildered in her effort to bring order out of confusion. But in chronic disease drugs seldom give such brilliant results. Chronic disease has come about as the result of long continued disobedience to nature's laws, and can seldom be cured by a few doses of medicine. It is here, we think, that hygienic treatment has a wider application than is generally taught. The morbid action has been going on for a long time, and we should be satisfied if we can slowly, if surely, bring about a cure.

Perhaps it would make the subject of this article more practical if we put it thus: "Is hygiene important for the individual physician himself?" If physicians were never sick and obliged to leave their work, if we had

all learned to maintain that buoyant state of health that makes work a joy, the question might be dismissed without consideration. Do we not need to ask ourselves if there is not much more we might learn that would help us attain that precious thing called good health? Have our habits in regard to the management of our bodies been adopted as the result of a careful and intelligent consideration of our physical needs?

Is not our manner of living very often just a following of prevailing customs without inquiring whether they are healthful or hurtful?

Some great man has said: "He who is regardless of his physical comfort, will soon find the quality of his work deteriorating."

It will certainly be a rich reward for giving new attention to the study of hygiene if it helps us to become better, happier workers.

## Gynecology and Obstetrics.

Under the charge of R. Gifford Kilborn, M.D.

### MEDULLARY NARCOSIS DURING LABOR.

A number of articles have recently appeared dealing with the subject of intraspinal injections of cocaine as an anæsthetic in operations on the lower part of the body. The *New York Medical Record* of December 6th, 1900, has an interesting and instructive article by S. Marx, M.D., on this subject as it may be used in labor. He says this form of narcosis is not a new method, for as far back as 1885, Dr. J. Leonard Corning not only suggested, but carried to a practical termination this method.

Dr. Marx has used this form of anæsthesia in fully thirty cases, and has never seen any symptoms which would cause apprehension of either immediate or remote danger. His patients all made ideal convalescences, and all the children, alive before delivery, were all born alive and well, although difficult labors were encountered.

The technique or the operation is as follows: Place the patient in an exaggerated position (the scorching bicycle position). When so placed, there is a distinct curve in the lumbar region, with the convexity downward. The patient's back from the middle of the dorsal vertebra, is by the usual methods, made absolutely sterile, and the parts surrounded by sterilized towels. A solid metal hypodermic

syringe, with a finely tempered needle ten centimetres long, is employed. This must first be sterilized.

With the patient in position, the thumb of the left hand is placed on the spinous process of the fifth lumbar vertebra. This point may be found by drawing a line between the highest points of the crests of the ilium. This will pass over the centre of the fourth lumbar vertebra and will prove a reliable guide. The needle is inserted at about an angle of 165°, immediately in front of and just outside the edge of the thumb. The needle must be directed slightly from below upward and from without inward. If the point strike the lamina, move it gently up or down till the space between the vertebræ is felt. Push the point slowly and gently in a downward direction till the clear limpid spinal fluid runs out. Immediately fluid runs out, screw on the barrel of the syringe and inject the cocaine. From ten to fifteen minims of a two per cent solution of cocaine is used, which is equal to about one-fifth to one-fourth of a grain of the salt. In from two to fifteen minutes, anæsthesia is ushered in. If the desired result is not obtained by the end of fifteen minutes, repeat the injection, or if there is not complete anæsthesia, or if pain returns, the dose may be repeated. Dr.

Marx has injected three quarters of a grain in one hour in an obstinate case with no bad results. The area of anæsthesia varies considerably. In all cases the patient has no sensation from the umbilicus down.

The anæsthesia lasts from one to five hours. Dr. Marx in his experience has had no serious complications, and what there were lasted from eight to twenty-four hours, and were controlled by one one-hundredth grain of *nitro-glycerine*, alone or combined with small doses of *morphia*. He recommends one two-hundredth grain of *hydrobromate of hyoscyne* as soon as symptoms of disturbance arise.

Uterine contractions go on regularly as if no narcotic had been used, and the patient feels no pain. He did explorations, versions, extractions, and placental removals with not quite as much ease as under *chloroform*, but much more easily than in a non-narcotized woman and never noted more than the ordinary tendency to bleed. He has carried a woman through an eight-hour labor by repeated injections with practically no pain. In multiparæ inject when the os is three-fourths dilated, and in primiparæ, when fully dilated. Dr. Marx declares that it is a method ideally suited to mitigate or absolutely allay the dreadful pains of labor, with no danger to mother or child, either immediate or remote.

Dr. Marx believes that there are two possible dangers—collapse from *cocaine* and sepsis from puncture—but from the *cocaine* he has had no untoward symptoms. He says the symptoms which follow the injection are not due to the *cocaine*, as the same symptoms occur after the injection of a *saline* solution. He further says in regard to sepsis, there is no denying the fact that in unclean hands, and with unclean instruments, this operation can and will produce a severe if not fatal sepsis. Therefore we must use every possible safeguard, as much care being used as if the abdominal cavity were to be opened.

A leading article in a therapeutic gazette of December 15th, 1900, declares that a much larger experience will have to be accumulated before the writer will be willing to resort to this method. No one yet knows the effects that may be produced after a time, and it seems incredible that there can be no danger of setting up myelitis, spinal meningitis, or hemorrhagic effusion by the action of the needle.

#### PLACENTA PREVIA TREATED BY

#### CÆSARIAN SECTION.

In the *Boston Medical Journal* of December 6th, 1900, appears a report of the Suffolk District Medical Society, section for obstetrics and diseases of women. At this meeting a paper was read by Dr. F. D. Donoghue on the above subject. Another paper on the same subject appears in the *New York Medical Journal* of November 3rd, 1900. Dr. Donoghue after outlining the various methods of treatment practised for placenta previa, and the terrible death rate, gives the indications for this operation as follows: (1). Cases of complete previa. (2). Cases of previa in primiparæ, when signs of fetal or maternal exhaustion are evident. (3). When a condition of rigid os is present. (4). Where there is a previous operative delivery. (5). In transverse positions, and in cases of prolapsed cord, where the cord is not easily returnable.

He maintains that Cæsarian section is the easiest of laparotomies and is an extremely safe operation, not only for the mother, but for the child; and he thinks that section may safely be done where the performance of any clean obstetrical operation is possible. If the uterine wall has been properly sutured after operation, there will be no thinning when thoroughly healed, and the abdominal wall, if closed by terraced sutures, shows no tendency to rupture.



Dr. Donoghue reports a case, the outline of which is as follows: Patient age 40; one previous pregnancy. Diagnosis of placenta previa was not made till woman was in labor. The case was allowed to go on till patient was in a state of collapse; temperature 99.4° and pulse 140. Dr. D. saw patient six or eight hours after diagnosis had been made. Operation was advised and consented to at once. The house, an ordinary one-story country house. The operating table, the kitchen table. All antiseptic precautions were taken. Incision was made at point corresponding to the middle of rectus, beginning opposite umbilicus and extending well down to pubes. The first incision opened the peritoneal cavity for about one inch. The incision enlarged with scissors till uterus could be pulled through. Intestines held back by packing gauze into abdominal cavity. Rubber tube passed around broad ligament to control hæmorrhage. Uterus opened by vertical incision in median line. Membranes were then ruptured and head presenting it was delivered. The cord was pulsating feebly, so was clamped and cut. Baby soon cried lustily with usual treatment. Rubber tube then relaxed and contraction of uterus followed. As patient was in good condition with no hæmorrhage going on, placenta was allowed to separate in the normal way, and after ten minutes was delivered through incision in uterus. Hæmorrhage from the placental site was so slight that it did not wet one gauze sponge. Mucosa closed by continuous suture of number one chromicized catgut. Uterine muscle was brought together by eight interrupted sutures, and a continuous suture of catgut closed peritoneal wound. The gauze packing removed and peritoneum closed by a continuous catgut suture, the rectus muscle caught together by same material and fascia of rectus closed by continuous suture. A continuous silk-worm gut suture closed the skin incision. Sterilized dressing was applied,

and patient returned to bed. Patient sat up in bed on the twelfth day, and left her bed on the twenty-first day. Patient and baby both alive and well at the time article was written.

Dr. Donoghue in his paper urges the importance of an early diagnosis. He believes that with skillful diagnosis and surgical treatment placenta previa may be no more dangerous to the pregnant woman than many other conditions now considered of minor importance. We must thoroughly appreciate the fact that any pregnancy may be a pathological one from the first, and we must devote the same careful study and attention to it that we would to any other pathological condition.

#### PUERPERAL ECLAMPSIA AND ITS TREATMENT BY MORPHINE.

By G. E. Fitzgerald, M.R.C.S., L.R.C.P.,  
Grahamstown, Cape Colony.

As cases of this disease are of comparative rarity in private practice, and its results usually so disastrous, this report of several cases which have come under my observation may be of interest:—

“In 1895, in consultation with Dr. Saunders, I saw Mrs. Q., aged 28, primipara; she had had one fit, and her urine was loaded with albumen, being almost solid on boiling. As we decided to induce labour, *chloroform* was administered and the os was dilated; the fits at this stage coming on at frequent intervals till a dead child was born. She remained in a dazed condition for six days, and then died.

“The next case I saw two months after, again in consultation with Dr. Saunders, his partner, and Dr. Greathead; Mrs. T., aged 25, primipara, eighth month, whose urine was found to be loaded with albumen. We agreed that no operative measures should be adopted unless fits should come on. The same night she had

numerous severe fits, and we all agreed that labour should be induced. *Chloroform* was given without any effect upon the fits; the child was born dead, and the mother, going from one fit to another, died the next day.

"The next case I saw one month after this was that of Mrs. S., aged 21, in the eighth month, who had had one fit. Her face was puffed, she had severe headache, and the urine on boiling was almost solid. I ordered *liq. ammon. acet.* two drachms *ter die*. The albumen greatly decreased, while the urine increased, and she was safely delivered of a baby three weeks after without any return of the fit. The albumen disappeared from the urine one month later.

"On June 5th, 1890, I was called in to see Mrs. S., primipara, aged 29. I found that she had one slight fit, from which, however, she had recovered when I saw her. She had œdema of the eyelids and legs, and her urine, on being boiled, was solid with albumen. Soon after she had two more fits, and my partner (Dr. Bays) and I saw her in a third one of a most severe character, from which we thought it unlikely that she would recover; however she slowly improved. Dr. Greathead saw her in consultation, and *pulv. jalapæ co.* and *elaterium* having been given, dry cupping was tried. A hypodermic injection of gr.  $\frac{1}{3}$  of *pilocarpin*, beyond making her perspire feebly, had no effect. The fits continuing severely and the labour progressing, though slowly, at 3 p.m. I injected hypodermically gr.  $\frac{1}{4}$  *morphine*, gr.  $\frac{1}{150}$  *atrop. sulph.* From that time she had no more fits. At 11 p.m. I repeated the injection; she was then breathing stertorously and was unconscious, taking no nourishment and passing no water. The next morning I again injected gr.  $\frac{1}{4}$  *morphine*, and at 1 p.m. the child was born naturally; the mother being conscious, though somewhat dazed. For two days I gave *morphine*, gr.  $\frac{1}{4}$ , night and morning, and also put her on *liq.*

*ammon. acet.* The albumen rapidly decreased in amount, and a fortnight afterwards only a trace remained, and the patient was practically well. A point of great interest was that the child, a male, when born was quite black, and after taking two or three breaths had a severe fit; he was put into a warm bath and given castor oil. For four days he took no food, his lips being moistened with milk and water. During this time he had thirty-nine fits in all; on the fifth day the fits ceased, and he is now perfectly healthy.

"Eight days later my partner, Dr. Bays, saw A. L., a primipara, aged 33, who was said to be a few days over her time, and to have had six fits during the night. At 7 a.m. she was in a somewhat dazed state, had bitten her tongue, and was in the early part of the first stage of labour. Four grs. of *calomel*, two ozs. of *mist. senneæ co.*, and a mixture of *liq. ammon. acet.* and *morphine* were ordered. Three hours after he was summoned to see her, and was told that she was dying; the fits had come on much more severely, and she was then in one which had lasted over an hour. *Morphine*, gr.  $\frac{1}{4}$ , with *atrop. sulph.*, gr.  $\frac{1}{150}$ , was injected, soon after which the fits ceased. As the aperient had not acted, enemata were administered without effect. She remained free from fits till the evening, when they again returned with great severity; the os was then slowly dilating, and the pains coming on regularly, but with little force. Another injection of *morphine*, gr.  $\frac{1}{4}$ , caused a cessation of the fits, which did not return. On the succeeding morning *morphine*, gr.  $\frac{1}{4}$ , was injected, and the labour was found to be progressing slowly. During these two days she remained in a semi-conscious condition, not recognising anyone, though capable of feeling pain. On the evening of the second day, as the os was well dilated, and there was uterine inertia, *chloroform* was administered, and a dead child was delivered with forceps. The

mother was in a restless and sleepless condition for four days afterwards; this was relieved by injections of *morphine*, gr.  $\frac{1}{4}$ . The urine, which in the early stage of the illness contained one-eighth albumen, was free from it on the fifth day. The bowels were at last moved by repeated doses of *mist. sennæ co.*"

These cases suggest the conclusion that to induce labour, however severe the fits, is a great mistake; the two cases so treated terminating fatally, whereas those in which no operative procedures were carried out with a view to remove a cause of the fits, recovered perfectly. In both cases the fits were almost at once checked by the administration of *morphine*, and did not return so long as the patient was under its influence. Another advantage is that *morphine* is free from the depressing effect upon the heart exerted by *chloroform* or *chloral*. The old idea that it exercised a bad effect in cases of renal trouble would appear to have no foundation in fact.—*British Medical Journal*, November 24th, 1900.

#### THE DIAGNOSIS OF ECTOPIC PREGNANCY BEFORE RUPTURE.

At the meeting of the American Association of Obstetricians and Gynecologists, held recently at Louisville, Dr. James F. Baldwin, of Columbus, Ohio, gave his views based upon the observation of eleven cases. He said that while there were no pathognomonic symptoms of tubal pregnancy, the following points would usually be found in these cases: The patient gave a history of several years of sterility (many exceptions); she

had missed a menstrual period, perhaps two of them (numerous exceptions); she had noticed some unusual pains in the pelvis, which she would probably describe as boring, griping, or colicky in character, these pains being situated usually in the region of an ovary. She had, perhaps, within a few days of the time of consulting her physician, had a more or less irregular hæmorrhage; perhaps, had discharged pieces of membrane which she supposed indicated an abortion, and consulted her physician with the idea that such was the case, owing to the hæmorrhage, pain, and the suspicion of an existing pregnancy. Possibly, however, there had been no suspicion of pregnancy, as the woman had accepted her sterility as incurable and had dismissed from her mind such a possibility.

On making a vaginal examination, the examiner would find upon one side or the other of the uterus, or behind it, a fusiform, quite well-defined cystic tumor about the size of a pullet's egg or a little larger. This tumor would probably be quite tender on pressure, quite symmetrical in outline, and usually was distinctly pulsating. When such a tumor was found in a woman in whom we had reasonable grounds to suspect a pregnancy; when the uterus at the same time was found somewhat enlarged and giving to the touch the sensation of pregnancy, a presumptive diagnosis of tubal pregnancy was warranted, and the matter of an operation should be carefully and without delay considered. To render the early diagnosis of ectopic pregnancy possible, it was necessary for physicians to learn to suspect it and to examine patients with that suspicion in mind.—*New York Medical Journal*, November 24th, 1900.

# The China Medical Missionary Journal.

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## Editorial.

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### PRESIDENT'S ADDRESS.

MY DEAR FELLOW WORKERS:—

My first duty is to thank you very heartily for the honour you have done me in electing me your President. Our Association has now been in existence for about fifteen years and has justified its formation as well as established an honourable place for itself in the medical world. Our Magazine is known over a fairly wide area, and if it is not all that its most ardent supporters would desire, it is at least a periodical not to be ashamed of. Our constituency, though no late statistics are by me, must number into the second hundred. To be the President of a Society that has such a position is an honour that a man ought to appreciate.

It is with some misgiving that I realise that I am the first President of the New Century, a century which we all believe is pregnant with great, if unknown, results for China. As a body of medical missionaries we have this last year received our baptism of fire whilst the churches at home have learnt by a rude shock to forever dismiss from their vision the sentimental halo that has gathered round our work. The daily life of philanthropy which the medical missionary leads, whilst it may give him opportunities of service that none else get, and may engender true love in the few, will nevertheless never protect him from the insane hate of the crowd that he has spent his life in healing.

Medical mission effort has kept pace with the rapid stride of evangelistic work in this land until the small beginnings of Drs. Pearson and Colledge, at the opening of the century, have developed into the

large hospitals which are now to be found all over the land. Nearly every province has its hospitals or dispensaries or itinerant physicians, and the number of patients relieved every year runs into the hundreds of thousands. So far, we have already got in our benevolent work. What is to be ~~THE~~ work of the Association these coming years? I can but briefly indicate some of the things that I think need doing and which can be done. The work of training Chinese medical men is one that as an Association we ought to forward by every means in our power. At the present moment a very important Committee on Nomenclature is sitting in Shanghai, and I heartily invite the members of the Association to give it their financial support, as well as aid its deliberations in every way. Whether we teach in English or Chinese ourselves the work that this Committee is doing is of immense value as a step, as the foundation step, of putting it in the power of our students to study our profession in their own mother tongue. I have long wished and worked for more unity in our methods, by which I mean the amalgamation of several small works into one large interdenominational one, and I still feel that this is not only an ideal but a possible ideal in many branches of mission work and especially in medical work. It seems, however, that this is not to be; still I hope that, as an Association, we shall try to take up a suggestion of our late President, Dr. Beebe, and unite in one Central Examination Board. The diplomas of such a board would have a real value from the first and serve to equalise the teaching results of all the various schools. A great work can be done and needs to be done in the way of preparing medical tracts in Chinese on public and private hygiene, on the prevention of contagious diseases, etc., and even in the preparation of posters for the walls of large cities and small hand-bills for gratuitous distribution. In this way a great deal of really useful information could be gradually inculcated in the people, which would be productive of much good. We need next to press upon the Home Boards the need of special hospitals and staff for special ailments. No one can walk through one of our large cities without feeling the present need of Homes for Incurables and the utter hopelessness of helping such cases without them. It is not merely that great suffering would be relieved, but I believe we should find, as it has been found in the case of leper homes, that such hospitals would be a fine field for evangelistic work. Other needs will suggest themselves to all who think. Our efforts in a word must be to educate the people to their needs and to train up those who can supply that need.

SYDNEY R. HODGE.

## HANKOW BRANCH OF THE CHINA MEDICAL MISSIONARY ASSOCIATION.

The programme for the current year has just been handed in by the Secretary, and it speaks well for the activity and zeal of the medical missionaries in Central China.

Hankow, always a centre for business activity, and, since the opening as a Treaty Port, a centre for missionary work in Central China, has of late years become important for medical mission work, which is rapidly extending, not merely throughout the province of Hupeh, but also into the neighbouring province of Hunan. In the three cities—Hankow, Wuchang, and Hanyang—there are five hospitals for men and three for women, and in the near future it is hoped to have two more women's hospitals. The medical staff working these hospitals consists of five lady-doctors and six men. In the country there are three hospitals, each worked by one man, and in a few months it is hoped that work will be definitely started in Yo-chow (Hunan). Thus in the centre and immediate neighbourhood there are at present sixteen doctors.

The Report of last year's work shows that a varied programme was successfully carried through, and the programme for this year fulfills the promise of last. We find that a variety of interesting and important subjects are to be written on and discussed. Phthisis Pulmonalis has already been dealt with by the president, Dr. Hodge, and on April 3rd, the ex-president, Dr. Gillison, will give his experiences on "Rectal Surgery." The obstetric side of the work is ably represented by Dr. Gough, who will give a paper on "Obstetrical Work in Hankow." On May 15th, there will be a paper on "Opportunities for Orthopædic Surgery in Central China." Two important and interesting subjects are to be dealt with in the latter half of the year. Dr. McCall will write on "Chronic Opium Poisoning," and the subject of "Hereditary Syphilis in China" will fall to Dr. Hodge.

Arrangements have been made by which the other side of medical mission work will be brought before the Society by Dr. Gillison in a paper on the "Spiritual Aspects of our Work." Dr. Peake, of Hunan, will give his experiences of "Pioneer Medical Missionary Work," and Dr. Huntley on November 27th will open a debate on "Out-patient Work."

Clinical meetings are held once in three meetings, at which cases are shown for the purposes of interest, diagnosis, and treatment

We are glad to have had the opportunity of seeing this programme; and we congratulate this branch of our Society and wish it every success in its work during the year.

We feel that this is a fitting time to urge the example of the Han-kow branch of our Society as a stimulus to our members in other important centres in this country. The new century has dawned; what it will bring forth for this land we cannot tell, but we believe that there is a great future for medical missions. It therefore behooves those of us who have seen the 19th century close in China, and are now in the infancy of the 20th, with the beginning of a grand future, to rise to the occasion and to fit ourselves and others that we may successfully cope with the difficulties that will face us and keep on a level with the advances in medical and surgical science. What is there to prevent the formation of branches throughout the various large centres where meetings can be held as often as possible to discuss matters of interest, surgical and medical, and so keep up to date with the advances made year by year?

Where there are no such societies, let them be formed. Where there are, let those that are weak become strong and those that are vigorous retain their vigor, and go on from strength to strength.

R. T. B.

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#### WORK OF THE NOMENCLATURE COMMITTEE.

The Nomenclature Committee met in Shanghai the middle of January, and was in session until the second of March, something over six weeks. There were present the following members: Drs. Whitney, Cousland, Stuart, and Neal. Dr. Kerr, the Chairman of the Committee, did not feel equal to the strain of the meetings, so did not come up from Canton. Dr. Porter, the remaining member of the Committee, was at home in America, so could not be present. The Committee was much helped in its anatomical work by suggestions from Dr. Morley. During the six weeks, sessions were held for five or six hours daily, and the following subjects were gone over pretty thoroughly and terms decided upon:—histology, anatomy, physiology, and pharmacology. It may be of interest to the members of the Association to give some idea of the principles which guided the Committee in its work, especially in regard to fundamental terms. The first subject which claimed attention was the names of the bones. It was thought most desirable that in the case of such a foundation matter there should be, if possible, only one character

for each bone, in order to facilitate the naming of arteries, veins, and nerves as well as muscles. After a long and exhaustive search through Williams, Giles, and Kang Hsi, for suitable characters, the following list was finally agreed upon on the principle that every long, or otherwise important, bone should have the bone radical at the side (except those of the head); the bones of the hand, should have the hand radical; and the bones of the foot, the food radical. The bones of the head it was not thought necessary to specially indicate by the radical, though as a matter of fact most of the cranial bones have the head radical.

*Long or Otherwise Important Bones.*

Clavicle	髑 Yü.	See Giles 13,565, Williams page 1,120.
Coccyx	髌 Ch'iang.	„ „ 1,274, „ „ 366.
Femur	髌 Ting.	„ „ 11,298, „ „ 907.
Fibula	腓 Fei.	A made-up character meaning the calf bone. (See 腓.)
Humerus	肱 Kung.	„ „ „ upper arm bone. (See 肱.)
Hyoid	舌 Kua.	An adopted character from Kang Hsi.
Ilium	髌 Ch'ia.	See Giles 1,199, Williams page 354.
Innominate	髌 K'ua.	„ „ 6,325, „ „ 468.
Ischium	髌 K'ao.	„ „ 5,962, „ „ 327.
Patella	髌 Pin.	„ „ 9,244, „ „ 696.
Pubes	腓 Chia.	A Kang Hsi character, meaning the lower [part of abdomen.]
Radius	肱 Fun.	A made-up character intended to mean "the [turning bone." (See 反.)
Rib	髌 P'ien.	A Kang Hsi character, meaning ribs.
Sacrum	髌 Ti.	See Giles 10,913, Williams page 878.
Scapula	髌 Po.	„ „ 9,377, „ „ 709.
Sternum	髌 Hsi.	Made-up from 肱 by substituting the bone [radical. (See 肱.)
Tibia	髌 Kan.	See Giles 5,824, Williams page 314.
Ulna	髌 Nao.	Made up from 肱 by substituting the bone [radical. (See 肱.)

*Bones of the Hand and Wrist.*

Carpal	腕骨 Wan Ku.	See Giles 12,468, Williams page 1,038.
Cuneiform	桴   Fu	„ Made up to mean "hatchet-shaped." (See 斧.)
Metacarpal	掌   Chang	„ See Giles 421, Williams page 23.
Phalanges	指   Chih	„ „ „ 1,791, „ „ 57.



Pisiform	豆骨	Tou Ku	A Kang Hsi character, adopted to mean ["bean bone."
Scaphoid	拈	Chou „	Made up to mean "boat-shaped." (See 舟.)
Semilunar	玊	Kung „	A Kang Hsi character adopted to mean ["bow-shaped."
Trapezium	撰	I „	Made up to mean "the peculiar bone." (See 異.)
Trapezoid	擘	Po „	A common character adopted to mean, ["splitting bone."
Unciform	拘	Kou „	Do. adopted to mean ["hook bone."

*Bones of the Foot and Ankle.*

Astragulus	踰骨	To Ku.	See Giles 11,309, Williams page 914.
Calcaneum	踵	Chung Ku.	See Giles 2,889, „ „ 107.
Cuboid	跗	Fung „	A Kang Hsi character adopted to mean "square bone."
Cuneiform, external	外	踰骨	} Made up to mean "hatchet-shaped." (See 斧.)
„ internal	內		
„ middle	中		
Metatarsal	蹠骨	Chih Ku.	See Giles 1,915, Williams page 70. ["Sole of foot."
Phalanges	趾	Chih „	See „ 1,843, Williams page 56.
Scaphoid	跗	Chou „	Made up to mean "boat-shaped." (See 舟.)

It will be observed that in following out this system it has been necessary in some cases to take old obsolete characters and affix to them the meaning intended, without much regard to the meaning given in Kang Hsi, while in other instances liberties have been taken in the way of adding a radical to a common character in order to make it conform to the rule. It is hoped that this system will greatly aid the memory of the student and teacher in remembering the position of the bones. Little change was made in the old names of the bones of the head and face.

*Blood Circulatory System.*

In naming the parts of the blood circulatory system it was decided that every character used should have the blood radical, and that each part should be represented by a single character. The following list shows the names agreed upon :—

Auricle	竈	Hsüeh.	A Kang Hsi character adopted to mean "blood [cave."
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Ventricle	竇 <i>P'én.</i>	A made-up character, intended to mean "blood [spiriter.]"
Artery	脈 <i>Mo.</i>	See Giles 8,013, Williams page 584.
Vein	孟 <i>Huang.</i>	A Kang Hsi character meaning "blood going [to heart.]"
Capillary	微 <i>Wei.</i>	Made up to mean "minute blood vessels."

It was necessary in following out this rule to make two characters for ventricle and capillary respectively.

### *Nervous System.*

The only radical change made in the naming of parts of the nervous system was in the adoption of the single character 系 *Hsi* (See Giles 4,061, Williams page 181) for nerve. This is a term suggested by Dr. Stuart some years ago in the JOURNAL, and means, according to Williams: "Connection, link, or passage which joins things; in anatomy a nerve or connecting tube." It was thought most desirable that we should have one character to represent such a common and constantly recurring term as nerve, and the one adopted seemed to fill the need as well as any we could discover. The terms for ganglion, plexus, and for cerebrum and cerebellum, remain unchanged. The name of the pons was changed to 腦橋.

### *Eye Terms.*

The most marked change made in the eye terms was in adopting the character 睛 for the middle coat of the eye, a character which has for some years been used not only for the conjunctiva but also for the ciliary region. All authorities, however, agree that this means the iris, and it was at first proposed to reserve it for this use, but after long consultation it was thought best to allow it to stand for the whole of the middle coat, making the choroid 睛膜, the ciliary processes 睛摺, and the iris 睛簾, thus showing to students the continuous nature of the vascular coat of the eye.

For conjunctiva and for cornea the committee was much exercised as to the best terms to adopt; it seeming very desirable to have one character only for each of such important parts. The characters 睪 *Tsui* (see Giles 11,912, Williams page 828) for conjunctiva and 瞭 *Liao* (see Giles 7,051, Williams page 529) for cornea were finally settled upon, and it is hoped may be acceptable to the majority of the members of the Association.

For the *vitreous humor* the character 睛 *Chén* was adopted, which, according to Kang Hsi, means "the essence of the eye."

For *eyelid* the name 瞼 *Chien* was chosen, as the meaning in Kang Hsi is exactly suitable.

### *General Terms.*

Coming now to some of the remaining general terms and taking them up in alphabetical order we have the following :—

ALBUMIN.—See below under “proteids.”

CANAL AND DUCT.—It was thought best to restrict the character 管 to the bony canals, at least for the most part, reserving 脬 for ducts and other fleshy canals.

CELL.—An entirely new and distinct character was adopted for this most important term; one made up of the flesh radical and the phonetic of the old term for cell 珠, making the character 脉 *Chu*. This seemed to all the members of the committee a distinct improvement over calling a cell a pearl, and also has the advantage of leaving the character 珠 free for use in naming bony tubercles.

CHONDRIN, CREATIN, MUCIN, ETC.—In naming these substances and others of their class, the term the Japanese use, 素 *Su*, was adopted to represent the “in” of the name and to express the idea of their being the pure part of the tissue from which they are derived.

GLAND.—In the case of this term, too, the Japanese name, which seemed to all most appropriate, was again followed; 腺 *Ch'üan* meaning the flesh spring. This character, however, is used in these lists to mean only a secretory gland, the ductless glands, and the lymphatic nodes being indicated by the character 棚 *Hu* the character 核 *Ho* being reserved for “nucleus of a cell.”

LYMPH.—The character 盡 *Chin* was taken from Kang Hsi and adopted because of its seeming appropriateness in its make-up. The meaning is so indefinite it was thought it would not be hard to fix it to mean in our medical books the lymph. (See also “serum” below.)

PANCREAS.—This, too, was a term which greatly troubled the committee. Various suggestions were made, but it was finally concluded that the best we could do was to adopt the colloquial Chinese term 脰 *I* and call it 脰腺. Its uses are so numerous that to name it from any one of them would be misleading, and to include them all in one name would make the term too unwieldy.

PROTEIDS.—The character 脰 *Ch'eng* was adopted from Kang Hsi to represent the proteids as a class, while various modifying terms were added to designate the different kinds of proteid substances, *e.g.*,

albumin 粹脛 *Sui Ch'ing*, or simply 粹 *Sui* alone; globulin 脛脛 *Ching Ch'ing*, or simply 脛 *Ching* alone.

SERUM OF BLOOD.—The character 盟 *Ming* was adopted from Kang Hsi on the same principles as the term 蠱 for lymph, as showing by its composition what was intended.

TISSUE.—For this general term the made-up character 𩑦 *Wang* was adopted, as it was felt necessary to have a single word to use in combination.

UTERUS.—宮 *Kung*. This character was made by combining the two characters formerly used for womb, so as to secure one single word for this organ.

The lists are sent out with the hope that members of the Association and others who are interested, will take the trouble to look them over carefully and after mature consideration will send in their criticisms. The committee, however, would deprecate hasty criticism. They would beg that they who find difficulties in the lists will carefully compare the different parts of the system and will endeavor to look at the whole subject as the committee was compelled to look at it. Criticisms should be sent to Dr. P. B. Cousland, Chao-chow-fu, Swatow, the secretary of the committee, before the end of the autumn, so that they may be considered at the next meeting of the committee.

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### CLEANLINESS.

It is a sad fact that the wards of too many of our mission hospitals too nearly approach the condition of the homes of the inmates. This should not be. Just now a number of medical missionaries have come to the field for the first time, and it is important to impress upon them the necessity of cleanliness in their hospital wards.

In the home lands, hospitals, old and new, large and small, are clean. The necessity for cleanliness is impressed upon both nurses and students. Many of the patients when brought to the hospital are from dirty homes, and are as filthy as the most filthy Chinaman. But before they enter the hospital ward, they must be bathed and made clean, and why cannot this be done here?

True there are many more difficulties in the way here, but they are not insurmountable. A short time ago an old hospital worker made the remark, "When my co-worker and I opened our hospital, we resolved that it should be clean, and we have succeeded in having it clean!" Those who have undertaken it, seem to have found little real

difficulty in persuading Chinese patients to take a bath and wear the hospital clothing. After a few days in the ward, they enjoy the order and cleanliness. A patient in a West China hospital said one day, "If heaven is like this, then I should like to go there." Certainly it is difficult to keep patients from expectorating on the floor and from storing food, articles of clothing, and tobacco and pipes in the bed. But if the attendants are properly trained, this difficulty is not much greater than at home.

Any one who has lived in China for any length of time, must be convinced that much of the disease and suffering here is due to dirt. Should we not set a good example by excluding dirt as far as possible from our wards? To be successful surgeons, we must use clean instruments and clean dressings. In our medical work, if we are going to attain the highest success possible, both spiritual and physical, we must place our patients amidst clean surroundings. We preach to our patients a gospel of purity and love. We strive to live lives of purity before them; then let us emphasize such teaching by clean wards and by cleanliness and order in all the hospital surroundings.

R. G. K.

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The medical missionaries who have been in Shanghai during the winter owe a debt of gratitude to Dr. and Mrs. Boone, who threw open their house to them for a weekly meeting every Friday evening, at which subjects of mutual interest were discussed and some papers of unusual merit were read. Nearly a dozen meetings in all were held, and the universal verdict was that they were of great benefit to all who attended them. As will be seen from some of the papers in the present number such subjects as "Self-support in Mission Hospitals," "Chinese Babies," "Hospital Construction," and "Women's Medical Work," were discussed, as well as medical itinerating, antisepsis, etc. Three evenings in all were given to the consideration of the question of the establishment of a central medical school, and resolutions were adopted on the subject which will doubtless reach the members of the Association in due time. The papers relating to the object of medical teaching and a central medical school will appear in the July number of the JOURNAL.

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The Secretary and Treasurer of the Association, Dr. Stuart, is preparing a blank to be sent out to the members asking for subscriptions to the fund for paying the expenses of the Committee on Nomenclature. It is hoped there will be a liberal response. Judging from the cost of

the meeting which has just been held, there will be needed about \$1,000 to meet the expenses of this and the succeeding meeting, which it is hoped is all that will be necessary, and to print the lists prepared by the committee. This means on an average about five dollars from each member of the Association, but as some are better able than others to help in the work it is hoped that members will not confine themselves to the above sum but will give as much as they feel able to. Each member will receive a copy of the lists free as published. It seems very desirable not to use the funds now in hand, which after all are only limited in amount, as we ought to have some balance in hand to meet emergencies and to keep the JOURNAL running in good shape. It should be mentioned in justice to the committee that they are not asking others to do more than they are willing to do themselves, as they have already subscribed over a hundred dollars toward meeting these extra expenses, and they will no doubt contribute more at the time of the next meeting a year hence. Subscriptions may be sent to Dr. Geo. A. Stuart, Nanking.

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With this number of the JOURNAL, bound in the back, will be found a list of the members of the China Medical Missionary Association. It is hoped that every one will carefully look this list over, and if they note any corrections that should be made will send a note of the same to the Secretary, Dr. Geo. A. Stuart, Nanking. It is also hoped that this list may serve to stir up those who are members to note whether or not newcomers whom they know have been invited to join the Association. All that is necessary in proposing names for election to the Association is for some one who is a member already to send the full name of the person proposed, together with the medical qualification and name of the institution where it was obtained, and the name of the Mission and station to which the new comer belongs. No seconder is required. As soon as elected, the name of the candidate will be entered on the mailing lists of the JOURNAL, and all that is necessary thereafter is for the individual to send three dollars a year to the Presbyterian Mission Press, 18 Peking Road, Shanghai. Copies of the Constitution and By-laws may be obtained free of either the Secretary or the editor.

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The editor is indebted to Dr. O. L. Kilborn for his help in getting up the Personal Notes and News Items in the present issue. Will it not be possible for members of the Association to send more frequent

notes of their doings or those of their acquaintances to the JOURNAL? It seems very desirable to make this department as full as possible, especially during such a time of change as the present, but unless news is sent to the editor, it is impossible for him to make it what should be, as he cannot manufacture it from his own inner consciousness. Let us have more frequent letters from everybody.

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The annual reports of the Canton Hospital, Tooker Memorial, Soochow, and the Chao-chow-fu Hospital for 1900 have been received, but owing to lack of time notice of their contents will have to be postponed until the July issue.



## Evangelistic.

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### INTERESTING CASES AT WEIHSIEN, SHANTUNG.

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By W. R. FARIES, M.D.

"In the morning sow thy seed, and in the evening withhold not thine hand: for thou knowest not which shall prosper, whether this or that, or whether they both shall be alike good;" may certainly be said to the missionary physician. One would not think that old men with chronic cystitis and enlarged prostates and complete retention of urine, would furnish good hearts to receive the gospel message; but two such cases stand out in our recollection against the forgotten crowd.

In February, 1900, a man came with his bottle to Weihsien dispensary for more mixed treatment. Remembering he had taken care of his father in the hospital the year before while the father was being treated for a most distressing cystitis, and had to be catheterized regularly, I asked him about his father. He replied that he had gone to heaven. This was such a remarkable statement from a heathen that I enquired further. It seems the father, after partial relief, went home and died soon after. He exhorted his son and family to believe what was taught at the hospital, saying that there was no such teaching or such men elsewhere outside of Christianity. The son voluntarily apologized for having had a heathen funeral for his father.

The only serious case left in the hospital when I went away early in June, was a young man with caries of the ilium, awaiting operation. He had been converted through the medical work the year before. He had suffered severe persecution from his father and fellow-villagers. His father had beaten and abused him repeatedly till he fled from home. He was brought to the hospital and provided for and nursed by a Mr. Kwo till his father was persuaded to visit him and then to nurse him. The father is reported to have exclaimed, after being at the hospital for some time, "I did not know this was Christianity!" When the news came of the destruction of Weihsien, prayer was made for this young man. The first letters giving an account of the occurrences told that the mob had spared the hospital wards.

The Mr. Kwo, mentioned above, and his father, were converted in the hospital last year. The father came with retention of urine and chronic cystitis, and is the other of the two cases mentioned in the first paragraph. He received benefit in the hospital and returned home, and died later in the year—after urging his family to believe the gospel and to follow the lead of the eldest son who had nursed him in the hospital. Mr. Kwo said that he and his father were much influenced by the Scripture reading and con-



versation of a Christian family and particularly the mother of the family, who had a room next to theirs at Weihsien. A man servant in the Kwo family was converted, but the daughter made his life so miserable that he had to leave. This daughter was married in the winter, and the memory of what she heard from her father seemed to have remained with her, for she became a secret disciple for fear of her husband's family. She also sent food to the young man with iliac disease when he was in hiding from his father.

Mr. Kwo's neighbors assaulted and broke in his barred gate and demanded that he give up Christianity. He replied they could beat him to death, but he would not give up his faith. They beat him till his tortures caused him to resist, and being a powerful fellow, they left him.

Here are what seem to be four conversions and two manifestations of Christian kindness and one exhibition of steadfastness, all through the faithful treatment of one discouraging case. The treatment was largely carried out and gospel preached by native assistants.

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The following extracts from the report of Venerable Archdeacon Thomson, as Chaplain of St. Luke's Hospital in Shanghai, will prove of interest to many readers.

"The work in a hospital might be spoken of as unvaried and dull in many respects, yet with constant change. The general outlines are the same each day, only that every new case has some new interest, either in the exhibition of disease in some changed aspect or in the personality of the patient.

"There was an instance of this in the person of an elderly Cantonese gentleman, who was a peculiarly interesting person. His case was a very difficult one, requiring many operations of more or less serious nature. There was much pain and many weary days, and even months of suffering. He had one of those kind and gentle faces one sometimes sees. He was so patient under all the trial. He would smile, and seem so pleased to see us. It was difficult to communicate freely with him, as our dialects were so different. Still, with a little English, we got on quite well. We felt of him, as was said to another, 'Thou art not far from the kingdom of heaven.' He was finally restored to a fair measure of health and left for his home. He read quite well, and took, I believe, quite a number of our books with him. We can hope he will come to accept the salvation which is so freely offered him in Christ.

"It is so with much of our hospital work. It is as a school where they learn much; it must remain for them to put what they learn in practice after they leave and for the Holy Spirit to work upon their hearts with the knowledge which they have acquired. There have been, if anything, even more of the various kinds of accident cases, such as broken legs, crushed hands or feet, from the various machine shops, steamers, cotton factories, silk filatures, etc.

"Mr. Wong, my helper, has written out in the large Chinese characters, such as are used on their ornamental scrolls in their temples and halls, some forty or fifty texts and passages from the Holy Scriptures. With these we have ornamented the walls of the various wards. These, with their varied colours, are quite a change from dreary stretches of bare wall.

"Every patient thus has before his eyes many of the wonderful words of Revelation giving to him or her new and strange thoughts, such as, "God is love," "God so loved the world that He gave His only begotten Son that whosoever believeth on Him should not perish but have eternal life," "Come unto me all ye that labour and are heavy laden and I will give you rest." The study and spelling out of the meaning of the written character seems always a pleasure and diversion to the Chinese.

"This was rather difficult work, and has been very satisfactorily done by Mr. Wong.

"There was also an interesting case of a bright young lad from Fookien who had all his scalp torn off. He could understand scarcely one word of the Shanghai dialect. After the first few days of dreadful pain and fever he brightened up and began to learn rapidly. He seemed to take hold of what is taught, and I am sure his stay in the hospital will be a life-long lesson to him. The restoration of the skin of his head by transplanting bits from other parts of his body was a most interesting case. Then again we have here one of the many instances of nuisance and danger of the wearing of the long queue. It is probable many thousands are injured and many killed every year from wearing this inconvenient and troublesome appendage.

"One of our attendants at the hospital services has been baptized, and another of the old patients is preparing for it."

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Dr. Kinnear, in his report of the Po-na-sang hospital in Foochow, gives the following interesting notes:—

"The heathen Sunday school still gathers a waiting room more than full of the neighborhood children and adults, and in-patients, every Sunday afternoon. No startling results have shown themselves during the year, but we cannot but believe that good will come. The material is not all very promising. For instance one of the older boys and two of the girls who attend most regularly are the children of a professional gambler, who is invited to the houses of well-to-do people on feast days, and some other times no doubt, to gamble with the people who wish to be entertained in that way. But the boy is one of the best readers, and memorizes as many Bible verses as any of the scholars, and he may be accepting more of the truth than we suppose. The children are showing more interest than ever in memorizing hymns, and enjoy the singing heartily. Many friends have sent picture cards for this work, and we hope that our constant need of them may be kept in mind by

those who are interested in the school. We are giving in this report a picture of a group of the scholars which give a good idea of their general appearance. They were bribed by a promise of oranges and cake to come on a week-day to have the picture taken, but many of them were afraid that the camera would extract one of their three spirits, or that we had some ulterior motive, so did not come. The group shown, though but a small proportion of the school, is, however, fairly characteristic.

"We have tried to have Mr. Horse, the evangelist, keep notes of the cases of conversions which have occurred during the year, especially of those who have united with our churches, but, while he is very faithful among the patients and is a useful evangelist, he can write but little, so finds it very burdensome and makes but a poor success of it. The majority of the patients find him one of their own sort, so that they feel quite at home with him, but the fact that he is not a literary man, which is something of an advantage in his intercourse with the patients, makes it impossible to get him to keep any kind of a record of the evangelistic work. He reports that two of our patients were received into the Po-na-sang church during the year, having been converted while in the hospital. One was a man from Ing-hok, who came with necrosis of the leg bone and was in the hospital a long time for operation and treatment. The other was a young man from north of the city who came for treatment of suppurating glands of the neck. From the first, the latter was an interested learner, and gave every evidence of having accepted Christ as his Savior when he was received into the church.

"A carpenter, about fifty years old, came with osteo-myelitis of the bones of the hand, resulting from a neglected injury which became progressively worse, until, in spite of amputating the hand, complicating pyæmia resulted in death. He had heard something of the gospel before coming to us, but had not accepted it. During his long illness he seemed to give himself fully to Christ, and Rev. G. H. Hubbard baptized him in the hospital a short time before his death. The funeral service, a Christian one, gave an opportunity for an impressive presentation of the gospel message to the patients and a group of outsiders who came in.

"Besides these who have been mentioned, there were others whom we believe were truly converted, some of whom we have no doubt have united with churches near their homes, while still others believe, but have not yet been received as members into any church."

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## Personal Notes and News Items.

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Dr. Williams, C. I. M., is still in Shanghai.

Dr. Pruett, of Pao-ning, Szchuan, is still in Shanghai.

Drs. J. A. and Ross Anderson have returned to their station—Tai-chow.

Dr. and Mrs. Ewan, of the C. M. Mission, will also leave shortly for Chungking.

Dr. H. Parry, of Kia-ting, Szchuan, is still in Shanghai. He will probably start west soon.

Dr. McCartney and family have returned from the United States and have gone back to Chungking.

Dr. King, C. I. M., has returned to Chefoo, to resume work in a tentative way; his health not being yet fully restored.

Dr. Cattell has returned to her work in Soochow in connection with the Tooker Memorial Hospital. She was in Shanghai for some months.

Drs. Kember and Babington, of Hangchow, spent some time in Shanghai during the winter. The former has returned home to England.

Dr. Lyon, of the American Methodist Mission in Foochow, has lately returned from a trip home and has gone back to her work in the south.

Dr. Hare is still in the Intelligence Department of the British army in Shanghai. The Doctor rejoices in the addition to his family lately of a little son.

Dr. Gaynor, of the Friends' Mission in Nanking, arrived in Shanghai March 6th, and within a few days proceeded to her station to continue her medical work there.

Dr. F. H. Judd, C. I. M., is still in Shanghai, where he is acting as physician to the members of his Mission who are there. He has been filling this position for some months past.

Dr. McClure, who spent most of the winter in Chefoo, after a short trip to Shanghai, has gone to Tientsin to remain until the way opens up for him to return to his station in Honan.

We are glad to hear from Dr. James A. Greig, of the Irish Presbyterian Mission, that he is reopening his hospital in Kirin, Manchuria, this month. —*N.-C. Daily News.*

One of the newest members of the American Methodist Mission is Dr. Charles, who arrived in Shanghai in February, and who has gone to Wuhu to work in connection with his mission there.

Drs. O. L. and R. G. Kilborn, of the Canadian Methodist Mission, left Shanghai March 7th for Chungking on their way to Chen-tu. They do not, however, expect to get beyond Chungking before autumn.

Drs. Macklin and Butchart, of Nanking and Lu-cheo Fu respectively, spent most of the winter in Shanghai. Late in February Dr. Macklin returned to his station, and Dr. Butchart followed some weeks later.

Dr. Lewis, of the American Presbyterian Mission, has resigned from Chi-nan-fu and has connected himself with the mission in Peking, where he still holds his position in connection with the American army.

Dr. Anna Henry, of the Canadian Methodist Mission, has returned to Shanghai, after six months' absence in Japan. By the time this number of

the JOURNAL reaches its readers she will be on her way to Chungking.

Dr. Reifsnnyder is back from her visit home and again hard at work at the Margaret Williamson Hospital in Shanghai, probably the finest Mission hospital in China. The Doctor's colleagues are Drs. Garner, Macgowan, and Kerr.

Dr. Mary L. Burnham, of the American Presbyterian Mission, who acted for some months as nurse at Wei-hai-wei, after a few weeks in Shanghai, went to Tsing-tau in February to remain until the way is open for her to return to her station—Chi-nan-fu.

Dr. Stuart kindly placed a room in his rented house in Shanghai at the disposal of the Nomenclature Committee, and during its sittings it met there every day. Dr. Stuart, immediately on the adjournment of the committee, returned to Nanking to his work in the Nanking University.

Dr. Whitney, of the American Board Mission at Pagoda Anchorage, arrived in Shanghai early in February from the United States, after an absence of three years, and after a month's work with the Committee on Nomenclature, went on to his station to resume work.

Dr. Cousland, after about two months in Shanghai in connection with the work of the Nomenclature Committee, of which he is the efficient secretary, went back to his work in Chao-chow-fu in March. Dr. Cousland is hoping soon to have a lady physician out from home to be associated with him in the work.

Dr. Doolittle, of the new mission being opened in Hunan by the American Presbyterians, has returned from Japan, and is going to Nanking to remain until the way is open to proceed to Hunan. Dr. Doolittle rejoices in having the money already in hand

for the building of a women's hospital as soon as she can get located in her station—Siang-tan.

Dr. Machle, of Lien-chow, Kuang-tung, was in Shanghai for a few weeks late in February and early in March. He came up to attend the meeting of the Nomenclature Committee, but unfortunately arrived only a week before the committee adjourned. Dr. Machle has undertaken to assist the committee in its work by preparing one of the necessary lists for future consultation.

Dr. Wills, whose hospital it will be remembered was destroyed in June last, an account of the occurrence being published in the last number of the JOURNAL, writes from his station near Hankow: "We are back at Tsao-shih again, and everything is oppressively peaceful. The compensation has been agreed to at Tls. 9,000, after three days of arguing and feasting. We were received publicly with all honor, and all seems very promising for the future. We hope for great blessing after all this. I expect to begin hospital work after the China New Year."

The medical missionaries in Shanghai, resident and refugee, have sought to improve the time by meeting in a series of weekly conferences extending from December to the end of February. Dr. and Mrs. Boone opened to us their hospitable home, evening after evening, until near the close, when a room at St. Luke's Hospital was very kindly placed at our disposal for the last two meetings. As many as eleven or twelve papers on subjects intimately related to medical mission work were read, in each case evoking much practical and helpful discussion. The attendance varied from twelve to nearly thirty. Dr. Boone by his kindly presence and helpful remarks, as also Dr. Barchet, of the American Consulate, added much to the pleasure and value of the meetings.

## BIRTH.

On the 24th of February, 1901, the wife of Rev. C. R. HAGER, M.D., D.D., American Board Mission at Hongkong, of a daughter.

## ARRIVALS.

January 16th, Dr. A. PECK, for Peking; Dr. E. BLISS, for Foochow,  
both of A. B. C. F. M.

„ 23rd, Dr. M. CHARLES, M. E. Central China Mission.

February 6th, Dr. H. WHITNEY, A. B. C. F. M., for Foochow.

„ 18th, Miss E. LYON, M.D., M. E. M., for Foochow.

„ 28th, Dr. J. McCARTNEY, M. E. M., for Chungking.

## DEPARTURE.

February 11th, Dr. A. T. KEMBER, C. M. S., for England.



## List of Members of the China Medical Missionary Association.

Alexander, Tina M.	M.B., CH.B., ED.	Swatow,	Swatow.
Anderson, John A.	M.D.	Taichow,	Ningpo.
„ P.	L.R.C.S. & P., ED.	Taiwanfu,	Taiwanfu, Formosa.
*Atterbury, B. C.	M.D.	Paotingfu,	San Francisco, Cal.
Ayer, M. A., Miss	M.D.	Soochow,	Soochow.
Barchet, S. P., Rev.	M.D.		Shanghai.
†Beattie, D. A.	M.D.	Yuenkong,	
Beebe, Robt. C., Rev.	M.D.	Nanking,	Nanking.
Bement, Lucy P., Miss	M.D.	Shaowu,	Foochow.
Bennett, J. H.	M.R.C.S., L.R.C.P.	Tientsin,	
*Bent, S. A., Mrs.	M.D.	Tsiningsheo,	{ 156 Fifth Ave., N. Y., U. S. A.
Bergin, G. F.	M.B., M.R.C.S.	Laohokeo,	Hankow.
Bigler, R. M.	M.D.	Canton,	Canton.
Bliss, E. L.	M.D.	Shaowu,	Foochow.
„ R. C. (Mrs. Noyes)	M.D.	Canton,	Canton.
Boone, H. W.	M.D.	Shanghai,	Shanghai.
Booth, R. T.	M.D.	Hankow,	Hankow.
Borland, Robert	M.D.	Wuchang,	Wuchang.
*Brander, T. L.	M.B., C.M.	Chinchowfu,	Newchwang.
Brown, H. M.	M.D.	Fusan,	Fusan, Korea.
Browning, F. W.	L.R.C.S. & P., ED.	Ningpo,	
Burnham, Mary L., } Miss	M.D.	Chinanfu,	Chefoo.
Burthart, Jas.	M.D.	Lucheofu,	Wuhu.
†Cairns, W. M.	M.B.	Taiwanfu,	
†Campbell, R. M.	M.D.	Soochow,	
Canright, H. L.	M.D.	Chentu,	Chentu.
*Carlton, M. E., Miss	M.D.	Mingchiang,	Foochow.
Case, J. W.	M.D.	Weihaiwei,	Weihaiwei.
Cattell, F. F., Miss	M.D.	Soochow,	Soochow.
Chestnut, E., Miss	M.D.	Lienchow,	Canton.
Christie, Dugald	{ L.R.C.P., L.R.C.S., ED. }	Moukden,	Newchwang.
Cochran, Samuel	M.D.	Hwaiian,	Nanking.
Coltman, R. J., Jr.	M.D.	Peking,	Peking.

Cooper, Effie B., Miss	M.D.	Chefoo,	Chefoo.
" Florence M., Miss	L.S.A.	Cionghuang,	Foochow.
Cousins, Agnes L., Miss	M.D.	Hankow,	Hankow.
Cousland, P. B.	M.B., C.M.	Chaochowfu,	Swatow.
Cox, G. A.	L.R.C.P. & S.	Chinkiang,	Chinkiang.
Crews, G. B., Rev.	M.D.	Peking,	
Cross, S. J.	M.B., C.M.	Engchun,	Amoy.
Crowther, Faith P.	M.B., CH.B., ED.	"	"
Curwen, Eliot	{ M.B., B.C., L.R.C.P., M.R.C.S. }	Peking,	Peking.
Dalziel, J. M.	M.B., C.M.	Swatow,	Swatow.
Davenport, C. J.	F.R.C.S., M.R.C.P.	Wuchang,	Wuchang.
† Deas, W. A.	M.D.	Wuchang,	
DeVol, Geo. F.	M.D.	Nanking,	Nanking.
" M. Isabella	M.D.	"	"
Dobson, W. H.	M.D.	Yuengkong,	Canton.
*Donahue, J. M., Miss	M.D.	Hinghwa,	
Dukes	{ M.B., M.R.C.S., L.R.C.P. }	Tingchiu,	Amoy.
Ewan, R. B.	M.D., C.M.	Chentu,	Chentu.
Fahmy, A.	M.B., C.M.	Changchiu,	Amoy.
Faries, W. R.	M.D.	Weihien,	Chefoo.
Flemming, Emma E.	M.D.	Ichowfu,	Ichowfu.
Fowler, Henry	L.R.C.P. & S., ED.	Hsiaokan,	Hankow.
Fulton, M. H., Miss	M.D.	Canton,	Canton.
Gale, Mary, Miss	M.D.	Shanghai,	Shanghai.
Gaynor, L. A., Miss	M.D.	Nanking,	Nanking.
Gibson, R. M.	M.B., C.M.	Hongkong,	Hongkong.
Gillison, Thos.	M.B., C.M.	Hankow,	Hankow.
Glenton, M. V., Miss	M.D.	Wuchang,	Wuchang.
*Goddard, F. E., Mrs.	M.D.	Inghok,	Foochow.
Gough, E. M., Miss	L.S.A.	Hankow,	Hankow.
Grant, D.	M.B., C.M.	Chingchiu,	
" J. S.	M.D.	Ningpo,	Ningpo.
Gray, D. C.	M.B., C.M.	Liaoyang,	Newchwang.
Greig, J. A.	{ F.R.C.S., L.R.C.P., ED. }	Kirin,	Newchwang.
Griffith, E. M.	M.D.	Shanghai,	
Guinness, G. W.	{ M.B., C.B., CANTAB. }	Cheokiakao,	C. I. M., Shanghai.
Hagar, C. R., Rev.	M.D.	Canton,	Canton.



*List of Members of the China Medical Missionary Association. 169*

Hall, Osman F.	M.D.	Chungking,	Chungking.
*Hall, W. L.	M.D.	Liman, Shansi,	Tientsin.
Halverson, S. L.			
Hare, H. M.	M.D.	Chentu,	Chungking.
Harris, Lucy E.	M.B., LOND.	Chungking,	
*Hart, E. H.	M.D.	Wuhu,	{ Watertown, N. Y., U. S. A.
†Haslep, Marie, Miss	M.D.	Shanghai,	
Hickin, H.	M.B., C.M.	Ningpo,	Ningpo.
Hoag, L. H., Miss	M.D.	Chinkiang,	Chinkiang.
Hodge, S. R., Rev.	M.R.C.S., L.R.C.P.	Hankow,	Hankow.
Hogg, Alfred	M.B.	Wenchow,	Wenchow.
Hopkins, N. S., Rev.	M.D.	Tsunhwa,	Tientsin.
Horder, E. G.	L.R.C.P. & S., ED.	Pakhoi,	Pakhoi.
Howie, J. M.	L.R.C.S. & P., ED.	Changpu,	Amoy.
*Hunter, S. A. D., Rev.	M.D.	Tsiningcheo,	Pittsburg, Pa.
Huntley, Geo. A.	M.D.	Hanyang,	Hankow.
Hu King-eng.	M.D.	Foochow,	Foochow.
Jellison, E. R.	M.D.		{ St. Paul, Minn., U. S. A.
Johnson, C. F.	M.D.	Ichowfu,	{ Mission Press, Shanghai.
Jones, A. Fletcher	L.R.C.S. & P., E.	Laoling,	Tientsin.
Judd, Frederick H.	B.A., M.B., B.C.	Raochowfu,	Kiukiang.
Kahn, Ida, Miss	M.D.	Kiukiang,	Kiukiang.
Kellar, Frank A.	M.D.	Chalingcheo, Hunan,	{ Hankow.
Kelly, William	M.D.	Changteh,	Hankow.
*Kember, A. T.	F.R.C.S.	Hangchow,	Hangchow.
Kerr, J. C.	M.D.	Canton,	Canton.
*Ketring, Mary, Miss	M.D.	Chungking,	Chungking.
Kilborn, M. A., Mrs.	M.D.	Chentu,	Chentu.
„ O. L.	M.D.	„	„
King, Geo. E. J.	M.B., B.CH., ED.	Chefoo,	Chefoo.
„ L. H., Mrs.	M.D.		Tientsin.
Kinnear, H. N.	M.D.	Foochow,	Foochow.
*Kühne, J. E.	M.B., C.M., M.D.	Tungkun,	Hongkong.
†Leitch, M.D., Mrs.	M.D.	Wusih,	
*Learmouth, B. L. L.	M.B., C.M.	Kirin,	Newchwang.
Lewis, Chas.	M.D.	Chinanfu,	Chefoo.
Lincoln, C. S. F.	M.D.	Shanghai,	Shanghai.
*Logan, O. T.	M.D.	Changtehfu,	Hankow.
Lowry, G. D.	M.D.	Peking,	Peking.

†Ludlow, W. L.	M.D.	Wuchang,	
Lyall, A.	M.B., C.M.	Swatow,	Swatow.
*Lyon, E. M., Miss	M.D.	Foochow,	Foochow.
MacDonald, R. J. } J., Rev.	M.D., C.M.	Fatshan,	Canton.
Machle, E. C.	M.D.	Lienchow,	Canton.
Macklin, D. M. M., } Miss	M.D.	Nanking,	Nanking.
Macklin, W. E.	M.D.	"	"
Main, D. D.	M.B., L.R.C.P. & S.	Hangchow,	Hangchow.
*Marshall, F. W.	L.R.C.P. & S., E.	Tongshan,	Tongshan.
Massey, Ruth, Miss	M.B., CH.B., ED.	Wuchang,	Wuchang.
Masters, L. M., Miss	M.D.	Foochow,	Foochow.
†Mathews, Percy	M.D., LL.D.	Shanghai,	
Maxwell, J. P.	{ M.B., LOND., & } F.R.C.S.	Changpoo,	Amoy.
McAll, P. Lonsdale	M.B., CH.B., ED.	Hankow,	Hankow.
McCandliss, H. M.	M.D.	Hoihow,	Hoihow, Hainan.
McCartney, J. H.	M.D.	Chungking,	Chungking.
McClure, Wm.	M.D.	Chuwang,	Tientsin.
McFarlane, S. S.	L.R.C.P. & S., ED.	Hsiaochang,	"
*McLeish, A. L., Rev.	M.D., C.M.	Amoy,	
McMordie, Sara, } Miss (Mrs. Kiers)	M.B.	Chinchow,	Newchwang.
*McPhun, J. F.	M.B., C.M.	Wukingfu,	Swatow.
†Merrins, E. M.	M.D.	Wuchang,	{ Cartagena, Colum- bia, S. A.
*Merritt, C. P. W., } Rev.	M.D.	Paotingfu,	{ Clifton Springs, N. Y.
Morley, Arthur	M.R.C.S., L.R.C.P.	Telngan,	Hankow.
Murdock, V. C., Miss	M.D.	Peking,	Peking.
Myers, Angie M., } Miss	M.D.	Amoy,	Amoy.
Neal, Jas. B.	M.D.	Chinanfu,	Chefoo.
Niles, M. W., Miss	M.D.	Canton,	Canton.
*Noble, W. C.	M.D.	Paotingfu,	Tientsin.
Olpp, Gotlieb F. A.	M.D.	Tungkun,	Canton.
Osgood, Elliott J.	M.D.	Chucheo,	Nanking.
Otte, J. A.	M.D.	Amoy,	Amoy.
Park, W. H.	M.D.	Soochow,	Soochow.
Parks, Edna B.	M.D.	Weihien,	Weihien.
Parrott, A. G.	M.R.C.S., L.R.C.P.	Laohokeo,	Hankow.
Parry, Herbert	M.R.C.S., L.R.C.P.	Kiating,	Chungking.
*Patterson, B. C., Mrs.	M.D.	Suchien,	Chefoo.

*Patterson, T. C.	M.B.	Tsouping,	
Peake, E. C.	M.B., CH.B., ED.	Yocheo,	Hankow.
Peck, A. P.	M.D.	Pangchwang,	Tientsin.
Peill, Arthur Davis	M.B., C.M.	Hsiaochang,	Tientsin.
Polk, M. H., Miss	M.D.	Soochow,	Soochow.
Porter, H. D., Rev.	M.D.	Pangchwang,	Tientsin.
*Pray, S. R., Miss	M.D.	Foochow,	Brooklyn, N. Y.
Pritchard, E. T.	M.B., C.M.	Peking,	
*Reed, C. E.	M.D.	Kanghan,	Canton.
Reifsnyder, E., Miss	M.D.	Shanghai,	Shanghai.
Riddel, Wm., Rev.	M.D.	Wukingfu,	Swatow.
*Rigg, J.	M.B., C.M.	Nangwa,	Foochow.
Scott, A. K., Mrs.	M.D.	Swatow,	Swatow.
Scranton, W. B., Rev.	M.D.	Seoul,	Seoul, Korea.
*Seymour, W. F.	M.D.	Tengchowfu,	Chefoo.
Shoemaker, H. K.	M.D.	Canton,	Canton.
†Shrubshall, W. W.	L.R.C.P. & S., E.	Tangsan,	
Sinclair, M. E., Miss (Mrs. Headland)	M.D.	Peking,	
*Skinner, J. E.	M.D.	Kucheng,	Foochow.
*Skinner, S. L., Mrs.	M.D.	Kucheng,	Foochow.
Smith, G. P.	M.B., C.M.	Tientsin,	Tientsin.
Smith, J. F., Rev.	M.D.	Hsinchen,	„
Smyth, R.	M.B., B.CH.	Ningpo,	Ningpo.
Squibbs, Walter	M.D.	Anhien,	Chungking.
*Stevenson, D. W.	M.D.	Chentu,	Richmond, Ind.
Stewart, J. C.	M.D.	Tientsin,	
Stone, Mary, Miss	M.D.	Kiukiang,	Kiukiang.
Stooke, Geo. F.	L.R.C.P. & S., E.	Ichang,	Ichang.
Stuart, Geo. A., Rev.	M.D.	Nanking,	Nanking.
Stumof, C. Otto	M.D.	Sioke,	Amoy.
Swan, J. M.	M.D.	Canton,	Canton.
†Swinney, E. F., Miss	M.D.	Shanghai,	
Taylor, B. von S.	M.B.	Hinghwa,	Foochow.
„ F. H.	M.D.	Chenchowfu,	Hankow.
Thomson, J. C., Rev.	M.D.	Hongkong,	Hongkong.
Toy, W. B.	M.D.	Bangkok,	Bangkok, Siam.
Tribe, E. N., Miss	M.D.	Huian,	Amoy.
Vanderburgh, E. D.	M.D.	Hoihow,	Hoihow, Hainan.
*Van Schoick, I. L.	M.D.	Chiningchow,	{ Hightstown, N. J., U. S. A.
*Wagner, E. R.	M.D.	Kalgan,	Peking.
Watson, A. R., Mrs.	L.K.Q.C.P. & S.I.	Chingchowfu,	Chefoo.

Watson, J. R.	M.B., M.R.C.S.	Chingchowfu,	Chefoo.
*Webster, Jas. S.	M.D.	Kweiyangfu,	Hankow.
*Wenyon, C., Rev.	M.D., M.CH.	Fatshan,	
*Welpton, H. G.	M.D.	Nanking,	
Whitney, H. T.	M.D.	Foochow,	Pagoda Anchorage.
Wills, Edward F.	M.B., C.M.	Kinshan,	Hankow.
Wittenberg, H. A. H.	M.D.	Kiayincheo,	Swatow.
Woodhull, K. C., Miss	M.D.	Foochow,	Foochow.
Woodward, Ed - mund L.	} M.D.	Hankow,	Hankow.
*Woods, E., Jr.		Tsingkiangpu,	Tsingkiangpu.
„ J. B.	M.D.	„	„
*Woolsey, F. M.	M.D.	Chungking.	
*Wyckoff, L. J., Miss	M.D.	Huchow.	
† Young, T. M.	M.B., C.M.	Moukden.	

\* *At home on furlough.*

† *Present address unknown to Secretary.*



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## Original Communications.

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[All papers must be in the hands of the Editor two months before date of publication to insure their appearance in the following number. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

### THE EDUCATION AND TRAINING OF CHINESE MEDICAL STUDENTS.\*

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By H. W. BOONE, M.D.

I have been asked to write on the above subject. It is a many-sided one, and I feel my inability to give anything that is new, but with the hope of bringing out the opinions of others, I offer a few suggestions. One way is to give the students their education in Chinese, using translations of foreign text-books.

In most places in China this will be the best, perhaps the only way, for unless a student has a thorough understanding of the English language he cannot take a course of study in English.

#### CHOICE OF PUPILS.

The student should be a young man of good moral character, steady habits, a church member, and he should have a good preliminary education in Western methods of study. By this I do not mean that he has run over an extended course. I do mean that he should have had that mental discipline which comes to the student who has been taught to solve for himself the problems of mathematics, grammar, and of the other subjects which were included in his course of study. His mind should not be filled with a jumble of undigested facts. He should be able to analyze and to apply, to think for himself.

When our Mission began the work of teaching medicine in 1880, we had some students from St. John's College. They had been taught the

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\* Read before the Shanghai Medical Missionary Association, December, 1900.

Western studies in Chinese; they did not know any English. Side by side with them in the class were three Chinese students—one of them a nephew of the Chinese minister to Berlin, one the son of an official, one from a family of gentry. These three young men were not Christians. They had a much better education and training in the Chinese classics than the Christian scholars from St. John's, and they looked down with haughty prejudice upon these boys of inferior rank. Now these three young gentlemen were steady, studious, and anxious to learn. We soon found out that they could only memorize; they had never been taught any other method of study. While our boys from St. John's could readily grasp the meaning of their Western text books, the young literati stumbled slowly along and a long way after them. Let your students get a good Western education before they enter the medical class. Do not admit non-Christians to your class. We soon found that our young gentry ridiculed our boys for going to church and for their Christianity. They were a disturbing influence and not for good. We, however, controlled them and allowed them to complete their studies. Since that time we have taken none but Christians and well educated young men into our medical classes.

Whether you teach in Chinese or in English let your pupils be well grounded in their anatomy, chemistry, physics, physiology, materia medica, and therapeutics. By this I do not mean very long and elaborate courses of study. I mean that the student should fully understand as well as remember everything that he has gone over, that he should be able to show you that he has a practical knowledge of his anatomy, should be able to do an ordinary analysis for himself, should fully understand his physiology and have a good working knowledge of materia medica and pharmacy. I do not wish him to go over long and laborious courses, but let him have his knowledge at his fingers' ends ready for use. He should spend two years at this. Then have his last and final examination in these branches. Now let the student go and live in a hospital. Let him learn to take histories of cases, give him the care of cases, let him take their pulses and temperatures and give them their medicines. Let him learn how to dress and care for surgical cases. He must now study medicine and surgery, obstetrics, skin diseases, diseases of children, diseases of the eye, and he should assist at the clinics. After two more years of work, during which time he should be well grounded in the great underlying principles of medicine and surgery, and should have frequent reviews and examinations, he should come up for his final examinations, written, oral, and at the bed-sides of the patients. If he can pass with a fair average, give him a certificate. If he cannot get a fair average turn him back for more study. If you teach in Chinese you will find a fair number of books in Chinese which have been translated by Kerr, Fryer, Porter, Dudgeon, Main, Osgood, Macklin, Neal, and others, and you can select your text-books.

Your graduates will have a limited number of books to read and no medical journals.

TEACHING CHINESE MEDICAL STUDENTS IN ENGLISH.

Our Mission tried teaching medicine in Chinese for fifteen years. Fourteen years before I had asked that the teaching should be given in English. Some of my reasons for this were my own lack of such a grasp of the Chinese language as a teacher should have to explain clearly and to carry his students along with him; second, the great difficulty of getting any one else to teach in the school; third, lack of new and up-to-date text-books; fourth, no medical literature for the graduates.

We decided to drop old methods and teach in English. We take no students except graduates of St. John's College, or others who have an equally good English education. We started with a faculty of four teachers, and we have never had less than that number. Two years are spent at St. John's for laboratory work there. After their finals in anatomy, chemistry, physics, physiology, and materia medica and therapeutics, they live at St. Luke's Hospital and act as chemical clerks and dressers, while they study the other branches of their profession. We have review and examination with marks every six weeks, an examination every six months, and after two more years of this work the final examination, written, oral, and at the bed-side. English and American doctors are asked to come and take part in these examinations and also to mark the students, so that there shall be no favoritism shown to the students by their teachers.

If you teach in Chinese your standard may be a good one; it can scarcely be carried so high as it can possibly be if the students study in English, and after graduation your Chinese-taught student cannot keep up with the onrush of modern thought. The man who cannot speak or read English will stay with you for a low rate of pay. The man with a good English education will expect liberal pay, for he can command good pay in the government services and in many ways if he goes into general business. If he is worth his salt he is entitled to good pay.

There is more in medicine than the study of medicine. Aim to make your medical student a gentleman. Give him high aims, a feeling that he has special opportunities for doing good, for healing the poor, for comforting the afflicted. That our Lord and Master set him the example as He went about doing good. Let him go from you with some thing above and besides mere mercenary aims, and you can feel that you have launched a strong and sturdy bark well fitted to withstand the storm and stress of this world, and with a fair hope of riding safely in the haven at last when the good fight is ended.

PRACTICAL NOTES ON ASEPTIC SURGERY FOR  
INTERIOR STATIONS.\*

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By W. R. FARIES, M.D.

It seems inexcusable in this age of surgery not to have almost all wounds made by the surgeon heal without pus. And yet there are men who go on having wounds heal by the slow process of granulation and claim to have good results because the patients recover by careful after-treatment.

In America a death from sepsis after a permissible operation is the fault of the surgeon, except perhaps in septic cases involving the great serous membranes. In China the surgeon may plead poverty of resources or inability to foresee what the patient or assistant may do owing to the strange working of the Chinese mind. We are here to consider our resources and how to use them. First let us consider the

## PREPARATION OF THE PATIENT.

Hot water, some kind of *alkali* and *alcohol*, are to be had in almost every village in China. A vigorous and prolonged use of these will go far to prepare the field of operation, the doctor's hands and the instruments. Of course a thorough bath is desirable for the sake of the doctor, if not for the patient.

In cities patients can be sent to public baths early in the morning before the water is fouled. It is easier in our locality to get patients to refrain from eating before anesthesia than to get them to take a bath. Some patients have tried to bluff on the bath question and others have gone home without operation rather than bathe. I have operated on serious cases without a bath, because the prejudice to the same could not be overcome. An operation without a preceding bath can be performed on an extremity or the head, or even on the trunk if the part is thoroughly cleansed and the operator never touches any but the prepared part.

Here let me say that a surgeon must train himself till he never touches any place but a clean one after he is ready to operate, nor lay an instrument down but in its tray or on a place fit for it. Men who lay an instrument down thoughtlessly on a soiled table or seize hold of a part that is not protected by sterile towels, must fail of asepsis. Besides one must watch one's assistants, though they have been carefully instructed.

## PREPARATION OF SURGEON AND ASSISTANTS.

For preparing the doctor's and the assistant's hands and the field of operation the *permanganate of potassium solution*, followed by an *oxalic acid solution*, furnishes a safe, cheap, and efficient disinfectant. After the skin is well scrubbed with brush and *potash soap*, and hot water, for five or ten

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\* Read before the Shanghai Medical Missionary Association, January, 1901.



minutes, paying particular attention to the nails of hands or feet, then apply the permanganate solution till the skin is well browned; then use the oxalic solution till it is bleached again, rinse in boiled water and use *alcohol* or *ether* if required. One great advantage of this method is that if you have seen your assistant's hands well browned and then bleached, you have greater confidence to go ahead than after washings that appeal to the ear only.

The disinfectant action is due to the oxygen liberated by the chemical reaction.

One assistant or coolie should be trained to handle the hot water vessels and to keep up an unlimited supply of hot and of cooled boiled water, and to handle the sponge basins, etc., by the outside, so as not to touch the parts that the first assistant handles. The success of the aseptic surgeon depends on attention to details.

#### OPERATING ROOM, ETC.

Every one wants an operating room that can be washed down and flushed out, but few can have such a room. An ordinarily good room can have the walls brushed down, the wood work wiped with wet cloths and the floor scrubbed daily.

Shoes can be changed at the door, and the doctor and assistants must wear washable garments over the clothing necessary for warmth.

For disinfecting a room, or for clothes hung up, *formaldehyde gas* is the best agent. For putting into the tub of clothes from such cases as diphtheria, nothing is equal to formaldehyde solution. But the air of the room or the water of the tub should be warm, as *formal* is not as efficient when cold. The solution is efficient for cleaning syringes, aspirators, and the like.

The operating table should be made of well-seasoned wood with one end a little lower than the other and covered (legs and all) with several coats of Chinese varnish or lacquer, so that it can have boiling water poured over it. Have it guttered down the center or rounded in the center and guttered along the sides as best suits you. A deep square pan held up under the lower end by iron brackets, will catch the washings and prevent splashing.

Side tables for vessels and trays can be made of close grained hard wood, without oil or varnish, and can be scrubbed with sapolio. Chemicals spilt on such a table will not worry you or hurt the table.

Galvanized iron-ware vessels are cheap and most serviceable. Photographic trays do for small instruments, and bake pans with handles serve for large ones. Round bowls with straight sides make good sponge dishes, and milk pails for water vessels.

I use absorbent cotton for sponges, and throw the wad away when it is clogged with blood. If I had a foreigner for an assistant I would use pads of gauze for sponges.

## INSTRUMENTS AND DRESSINGS.

Instruments should be such as can be easily cleaned. Knives should have hard rubber handles baked or else be all of metal.

The old wooden handles and folding pocket lancets should be discarded. Scissors, artery clamps, and the like must come apart to be cleaned. Use few instruments.

Wash instruments in clean cool water if bloody, then in boiling water and dry. Apply *vaseline* if necessary. Before operating, boil instruments if they have been handled; otherwise, pour boiling water over them in the tray. Add a little *lysol* to the tray if you like.

Serrations of forceps and clamps must be cleaned with a steel point if a stiff brush does not do the work thoroughly. The polish on instruments should be maintained by suitable polishing powders.

Hypodermic needles washed out with *alcohol* and thrust through an *alcohol* flame are safe. Needles can be kept folded in paraffin paper or stuck into a cork floating in strong *alcohol*.

Tall cylinder glasses are made now for suspending catheters over a *solution of formaldehyde*.

*Lysol* in from one-half to two per cent. solution is of use to immerse the instruments before and during an operation, when you cannot be sure of your assistant's cleanliness, and also to wash instruments during an operation when they have been fouled, as in cases of bone disease. I have been told it is most excellent in cleaning off dried blood after an operation.

Good *lead plaster*, sterilized by the flame before application, is excellent to coapt dry wounds, particularly shallow ones. It is an excellent dressing for leg ulcers after they have had the *carbolic acid* treatment. It can be left on for several days and healing goes on rapidly under it.

Chinese silk makes the cheapest sutures. It is easily prepared, and if it and the tissues are aseptic, buried sutures cause no disturbance.

Catgut prepared by *formaldehyde* can be boiled and kept in absolute *alcohol*. Ends and remnants can be wound on glass reels and boiled again and so saved.

For wounds made by the surgeon we should have a small quantity of *bichloride gauze* to lay next the skin or over some dusting powder, and then cover it with absorbent cotton. Native cotton outside of this will help distribute the discharge and help to form a firm compress to bandage over.

Paraffin paper can be used to help confine the discharges to the absorbent cotton. The objection to rubber or oiled tissues is the expense. They do not keep well in this climate.

Have the absorbent cotton cut up into sizes, by clean hands with clean scissors, and put into glass jars to be had from Japan, or into fish globes where the first are not to be had.

Sheeting can be bought in all cities for bandages. These can be baked in an oven. An oven should be built for each hospital to sterilize clothing and the like. Not all of us have hospitals with wards where we can have hospital clothing for patients. We should when possible.

Cheese cloth or glazy cotton sheeting boiled out in an *alkali*, dried, cut up into strips and impregnated with a one per cent. solution of *balsam of Peru* in sterilized *castor oil*, makes one of the cheapest, cleanest, and most comfortable dressings for dispensary patients. It is used a great deal at the Good Samaritan Dispensary in New York, where 60,000 treatments are given in a year.

Dressings must be put on to stay. A thread and needle helps to reinforce a bandage, and thread is cheap and patients cannot remove it easily.

*Naphthalin* is a most excellent dusting powder for discharging wounds, particularly for out-patients. It is cheap, antiseptic, and non-irritating, and flies are kept away by its odor.

*Antifebrin* is cheap and acts well on venereal sores. *Subgallate of bismuth* is good on sewed wounds. *Aristol* is good on intestinal sutures.

*Glutol* and other combinations of *formaldehyde* and *albumen* are very valuable in open wounds, and in operations about the lips where there is not enough skin for good coaptation, and where saliva dribbles over the wound.

All know the great usefulness of the *bichloride of mercury*, and that its action does not penetrate deeply. It is good for preparing the skin of smooth parts.

I trust it to remove recent contaminations. After seeing a scarlet fever case, remove your outer clothing to be hung in the air and sunshine for a few days and wash hands and face and hair in a 1 to 1500 or 1 to 2000 *bichloride* solution.

Towels to cover the patient should be wrung out of hot *bichloride* solution.

A very dilute solution will work wonders in the eye, but *boric acid* is sufficient in an eye that is in a good condition for an operation.

In septic wounds and abscesses Seneca Powell's *carbolic acid* treatment will produce clean healthy wounds. The treatment consists in thoroughly trimming and curetting away all diseased tissue and *débris*, but "do not curet a sinus with dead bone at its bottom," says Dr. Phelps.

Then with cotton on a probe or cotton carrier swab the whole surface over with pure *carbolic acid*. Follow this at once with *alcohol* on a swab to limit the action of the *acid*. Remove the *alcohol* with water and apply your dressing. *Alcohol* neutralizes *carbolic acid* at once.

In a case of the so called hernia cerebri, I wiped out the abscess beside it with cotton and applied the *acid* treatment with the satisfaction of seeing the protruding mass disappear in a few days and healing take place. I have not

seen this treatment succeed in abscess of the liver, and it seems to be because the necrotic tissues cannot be all removed.

The majority of operations for fistula in ano should be aseptic, but we cannot go into the details in this paper.

Ulcerating tumors should have a soft soap pack applied the night before; the ulcer should be thoroughly cleansed with strong *permanganate solution* and then be protected with antiseptic dressings put on to stay during the wetting and rough handling incident to the operation. Better yet if the *carbolic* treatment could be applied before the operation for removal. All skin that is bathed in pus, also hands and feet and calloused surfaces, or parts that are plentifully supplied with sweat or sebaceous glands, should have the soap pack applied.

Cheesy glands and sebaceous tumors should be removed without rupturing them.

Wounds must be kept as dry as possible in most instances and the parts thoroughly coapted if primary union is expected.

Use normal *saline solution* when raw surfaces have to be flooded as to float away fat globules. The subcuticular suture reduces the danger of stitch abscess. Bring the deeper tissue together and suture; press the fat together with a hand on each side of the wound and put in the subcuticular suture and "the atmospheric pressure will hold the fat together. This reduces danger of fat necrosis." (Morris.)

Drainage is necessary where there is much oozing, as in a large stump, or where infection is suspected or known, as in appendicitis. A wick of gauze rolled in a bit of rubber tissue furnishes about the nicest drain.

*American Presbyterian Mission, Wei-hsien, Shantung.*

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## A CENTRAL MEDICAL SCHOOL.\*

By JAMES BOYD NEAL, M.A., M.D.

In the JOURNAL of our Medical Missionary Association for April of last year, appeared an article by Dr. Edgerton H. Hart advocating the establishment of a central medical college at Nanking. In the July number of the same year Dr. Cousland's plea in behalf of the same object, before the Edinburgh Medical Missionary Society, was commented upon editorially, while in some notes just received from Dr. Hodge, of Hankow, it is said that four meetings of the Hankow branch of the Association, out of a total of twenty-two meetings, had been devoted to the consideration of the scheme of a united medical school. All the above shows that the thought of some united effort to organise a central medical school has engaged the attention of many of the

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\* Read before the Shanghai Medical Missionary Association, March, 1901.

members of the Association, and it seems peculiarly fortunate that just at this time there should be so many medical missionaries in Shanghai to discuss this question, which is of such vital importance to our work.

No one who has been engaged in the work of training medical students for even a very few years can be at all satisfied with the methods now employed, or with the results obtained. To expect one man, or even two, to go over the whole field of medicine and give young men a thorough grounding in the essentials of medicine, especially when the physician in addition must carry on regularly a more or less burdensome medical work, is to expect the impossible. It is quite bad enough to have to cover the whole field of medicine in our daily practice with little opportunity to become proficient in any one branch, owing to this necessity of doing everything, without trying at the same time to go through the daily drudgery of teaching all the branches in the medical curriculum.

The results also are quite as unsatisfactory as the methods, for after four or five years of training we find our students finishing their course with what we must know is only a smattering of what they have studied, and while we may feel gratified that they have gained as much as they have and are so far ahead of the crowd of native practitioners in their knowledge of scientific truth, yet we cannot but feel that they might have gained much more under more favorable circumstances.

I take it for granted therefore in opening this discussion that we are all of one mind in this matter, and that we are all agreed that it is most desirable to look forward to and plan for at least one central medical school, and possibly more, to take the place of the present system of isolated small medical classes taught by individuals.

At the suggestion of Dr. Whitney I would divide consideration of this question into three parts:—

- 1st. Its feasibility,
- 2nd. The nature of such a school, and
- 3rd. Its location.

First, then, *is such a school practicable here in China?* Can we establish one medical school which will meet the wants of the whole empire? And if one school only would be impracticable, would it be possible to plan for more to meet the needs of different parts of the country?

Though these are questions which each one present may answer differently, yet it is probably pretty clear to all of us that as a beginning we must push for one central medical school only, letting time reveal the needs of the future, for if we scatter our efforts over too large a field we shall fail altogether. That such a school is feasible I firmly believe, provided our Association is firm and united in its advocacy of it. I cannot but believe there are men

of means at home in both Great Britain and America who would be glad to help in the establishment of such a school if their attention were called to the matter. If, as has been advocated by Dr. Cousland, the Edinburgh Medical Missionary Society would take hold of the matter I have no doubt it could be pushed to a successful conclusion. The principal need at first would be the erection of suitable buildings for the work and the providing apparatus for the teaching. This would seem to require only a moderate outlay of money which I have no doubt would be forthcoming. The providing the necessary teachers would be a more difficult matter, but for the present some such arrangement might be made as is found in the Society for the Diffusion of Knowledge, whereby certain men are allowed by their societies to devote much or all of their time to the work of the society here in Shanghai; their salaries being still provided for by their original supporters at home. Sooner or later of course it is to be hoped that a permanent endowment might be provided, so that the school would be on an independent basis and be in a position to develop as it should. It seems to me that the question of feasibility depends almost entirely upon whether or not we are united in our desire to see such a central school started somewhere in Central China and are prepared to lend our support to the scheme, not only in the way of advocating it but in the way of sending students to it. We should certainly not ask anyone to put money into such an undertaking, nor urge anyone to undertake the establishment of such a school, unless we are thoroughly convinced of its wisdom and willing to support it.

Second. *What should be the nature of such a medical school?*

It is in the discussion of this question that the greatest difference of opinion will probably be developed. Some are strong advocates of making English the medium of instruction in medicine, while others are equally strong in their advocacy of doing all work in Chinese. Personally I much prefer the latter method, though I am well aware that at present the number of good text-books in Chinese and the books for reference are painfully limited, so that it is very difficult to give thoroughly satisfactory instruction to our native students in their own language. In time, however, these difficulties will be largely overcome, and we shall have an adequate system of text-books in Chinese, while the larger books of reference will no doubt follow in due course. Teaching them in their own tongue has the very great advantage of enabling us to take them on at an earlier age than would be possible if we waited for them to learn English, and yet would allow them to complete a preliminary course in scientific studies before starting on their medical work.

Personally I am strongly in favor of instruction by means of text-books, a certain portion being assigned each day to be prepared by the class for

recitation the next day. The old system of lectures seems to be deservedly falling into disrepute at home and should form but a small part of our plan of teaching out here.

Sooner or later no doubt it would be necessary to have at least one man who should devote his whole time to the teaching of the foundation branches of anatomy, physiology, and chemistry, while the other members of the faculty should each have his own department of practice, either in a hospital connected with the school, or in some hospital in the same city, where he could enforce, by clinical teaching, the instruction in the class room. Very few of us would be willing to give up entirely the practice of medicine, however much we may be interested in training medical students, though many of us no doubt would be glad to confine ourselves to the practice of some particular branch, whereby we should be doing something for the Chinese in general and at the same time have opportunities for instructing our students clinically.

The ideal school of the future will have a competent corps of instructors who are devoted heart and soul to the carrying on of the work of teaching, while at the same time practicing their specialities in connection with the hospital belonging to the school, and in addition may have a number of outside clinical professors, who will add greatly to its usefulness.

Third. *Where should such a medical school be located?*

There seems to be only one answer to this question, either in Shanghai or Nanking. In Shanghai if the teaching is to be in English and if we are to aim to make it most accessible to the greatest number from both the north and the south; in Nanking if mandarin is to be the medium of instruction and if we desire to surround our students with the restraints of a more purely missionary community. Nanking would perhaps offer more attractions at present as containing so many mission hospitals, whose physicians could combine to make up a medical faculty from their own number, and from the fact that until the school got well established and became well equipped the resources of the Nanking university would no doubt be at its disposal for the teaching of various branches. Sooner or later of course such a central medical school as we contemplate should be entirely undenominational and should be complete in itself, so that though at first use might be made of the facilities of either St. John's in Shanghai, or of the university in Nanking, yet plans should be made to eventually have everything we need under one management.

In closing let me say that this paper has designedly been made short and far from exhaustive in order to allow time for full discussion of the subject and in the hope that several of those present may be induced to write more fully for the July number of the JOURNAL in which this discussion will be reported. Nothing, it will be observed, has been said as to the possibility of starting medical schools in all the provincial capitals, nor of the great desira-

bility of getting and keeping the training of young medical men and women in Christian hands from the start, nor of methods of support of students. All these questions, and many others no doubt, will be discussed by those who shall take part in the debate which is to follow.

P. S.—Since the above paper was written Hankow has been suggested as possibly a better location than either Shanghai or Nanking for our first medical school, owing to its position near the geographical center of the empire.

*American Presbyterian Mission, Chi-nan-fu.*

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## ANCHYLOSIS OF THE KNEE-JOINT AT AN ANGLE OF 120°.

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RESECTION, PARALYSIS OF MUSCLES, COMPLETE RECOVERY.

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By J. A. OTTE, M.D.

The patient (M. age 21) had been shot in the leg, the bullet passing through the head of the tibia, shattering it. The wound suppurated for some months, and finally closed with ankylosis of the knee and partial dislocation of the tibia backwards. The leg was entirely useless.

On March the 8th, the writer and Dr. Fahmy resected the knee. The patella was firmly adherent to the femur and had to be sawn from its attachment.

The adhesions between the tibia and femur were broken up. A section was then sawn from both bones. This was easy in the femur, but exceedingly difficult in the case of the tibia, on account of the fact that the whole of the lower part of the popliteal space was converted into a mass of hard cicatricial tissue. After the section had been made, it was found impossible to straighten the leg on account of this cicatricial tissue. A second section of the femur was then made, and still the leg could not be straightened. It was impossible to further reduce the size of the head of the bone, and hence a considerable amount of force was finally successfully used to straighten the leg. The temperature on the second day was 101.5° and on the third day 100.6°, after which it never went above one hundred. Healing was by primary union.

The patient was discharged during the seventh week after the operation. Ankylosis with the leg straight was the result obtained. There was, however, complete paralysis of the peronei muscles. As the nerve was certainly not cut, this was probably due to stretching of the nerve, and hence a favorable prognosis was given. Seven months after he was discharged the patient was seen again. The paralysis was completely cured and the leg in a good condition. This case is reported because of this condition of paralysis and its subsequent spontaneous cure.

*Reformed Church Mission, Amoy.*



## FECAL TUMORS AND THEIR DIAGNOSIS.

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By R. T. BOOTH, M.B., B.Ch., R.U.I.

In discussing this subject I am somewhat at a loss to know in what order to proceed, whether to give the brief outlines of cases first and then pass to the consideration of the subject generally, or to first take up the subject in general and then note cases, as illustrating the condition.

On the whole I think that the first arrangement will be preferable, so shall proceed to give the notes of the cases.

*Case 1* is that of a young man who came to hospital in the fall of 1897. He was a tall, well built, and apparently healthy looking man of about twenty six years of age, and when you saw him would not have thought that he had the peculiar condition which we afterwards found. He complained of a large tumor in his abdomen, attended with almost complete stoppage of feces, some abdominal tenderness, and dyspeptic symptoms, e g, coated tongue, foul breath, flatulence, and gastric dilatation, but he had a fair appetite. As I said he had a healthy color that entirely belied his condition.

Past history gave a lengthened period of obstipation; sometimes weeks passing without any motion. On two previous occasions he had had tumors, which had disappeared after active purgation. The first of these had occurred when he was about seventeen, or nine years before; the second had appeared some two years later. He had got over both attacks with little or no bother, and did not seem to have suffered much at either time. The only other facts in his history were what one would expect, viz., dyspeptic symptoms. He did not seem to be of a nervous temperament, and there were no symptoms of hypochondriasis.

On examination we found a large tumor in the abdomen, rising up above the level of the umbilicus and extending down into the pelvis. This tumor seemed to be formed of two parts: the upper, which occupied the space above the umbilicus, seemed quite distinct from the lower. It was elongated transversely and was quite soft to the touch and could be moulded very easily. The lower part, which seemed to be distinct, was a very hard unyielding nodulated mass, which occupied the hypogastric, the lower part of the umbilical, and parts of both inguinal regions, and also extended deep down into the pelvis.

Even with fairly hard pressure no impression could be made on the surface of this mass. There was a slight amount of pain on rough handling, but ordinarily he was little troubled with it. On examination by the rectum it was found that the tumor extended down almost to the floor of the pelvis and filled the cavity like a large hard foetal head in the second stage. No impression could be made on the tumor here and no motion could be communicated to it on bimanual examination.

There were no symptoms of pressure on nerves, and the abdominal veins were only slightly distended. No interference with the bladder beyond a slight increase in frequency of micturition, which one would naturally expect. However, what one would expect would be no criterion, as many other symptoms which one would have expected to find were not evident. There was no vomiting. There was no sign of any tumor elsewhere, and no enlargement of glands, inguinal or other.

Diagnosis first made was that the upper soft tumor was an accumulation of feces, quite distinct but caused by the larger hard tumor which was thought was in all probability a *sarcoma* growing from the sacrum and obstructing the lumen of the gut. All those who saw the case at that time agreed, and the patient was about to be handed over from the medical to the surgical wards when the senior physician, who happened to be away at the time the patient came in, returned, and was shown the case. I had the privilege of being his clinical clerk at the time, and I shall never forget my feelings that Sunday morning when I saw him examining that case, nor can I describe my feelings of anxiety during the remainder of the day. He proceeded with his examination in the usual way, and when he had satisfied himself with a fairly long examination he seized the lower tumor with both hands, and exerting all the strength of his hands and arms, he dug his fingers into the substance of the tumor, and then looked up and said, "I thought so." He then proceeded to bend and twist and mould that tumor, and at length tired out he stopped.

His diagnosis was feces, and after treatment bore it out, as the tumor entirely disappeared under treatment for that condition.

I spent a bad twenty-four hours watching anxiously for symptoms of peritonitis, which never came!

I shall not now enter into the question of treatment, but will reserve that to the close.

#### SECOND CASE.

*Case 2* was a young woman of about thirty, as well as I can recollect. She came into the hospital in the autumn of 1898. She had a large tumor in left side of the abdomen, occupying part of the lumbar, hypochondriac, inguinal, and umbilical regions. It was round, and seemed about six inches in diameter, was hard and nodular, and did not yield except very slightly to severe pressure. Patient had dyspeptic symptoms, no vomiting, a good deal of pain, and obstinate constipation. She was of a neurotic disposition. No history of tumor in the family. Had been troubled with this for some years. No symptoms of pressure with the exception of pain. No interference with the kidneys or bladder. I forgot to say that this tumor was movable, and was not connected to posterior wall. Diagnosis was made of fecal accumulation and the patient put on the same treatment that the former one

had received. Up to the time that I left the wards I could not flatter myself that the enemata, etc., had produced any change for the better and was beginning to think that the diagnosis was at fault. However, the physician in charge stuck to his opinion. I was unable to follow the case myself as I had to go to London. On my return, some months after, I asked my brother, for whom I had been doing *locum-tenens*, what had happened to the poor woman. I found that she had died, and the *post-mortem* diagnosis was sarcoma, whether of the mesentery or intestine I cannot recollect at the moment.

These two cases are full of instruction, and would well repay careful study. I am sorry that my account of them should be so meagre, but you will understand why that is so, as I have not the notes at hand. The frequency of fecal accumulation as a cause of intestinal obstruction will vary according as we discuss the matter from the view of the *post-mortem* table, or from the point of view of practice. From the former standpoint we find the following order of frequency: Intussusception, strangulation by bands, stricture, tumors and foreign bodies within the bowel, FECAL ACCUMULATION, volvulus, tumors without the gut.

In practice we find that the order is something like this: FECAL ACCUMULATION, stricture of large intestine, intussusception, strangulation by bands.

*Seat of the accumulation.*—Nearly always in the large intestine, viz., cæcum, and sigmoid flexure, most frequently; also in the hepatic and splenic flexures. Fecal accumulation may occur in the small intestine, but it is very rare, and when it does occur, it is most probable that no tumor will be evident to eye or hand.

#### ETIOLOGY.

Fecal accumulation is more common in women than in men, and in those past middle life than in those of younger years. In the case of women the subjects are usually hysterical, although not necessarily so, and in the case of men hypochondriasis is frequent. Case 1, however, mentioned above, showed no such symptoms.

Chronic dyspepsia, bad teeth, irregular and hurried meals, and the neurotic condition usually precede. Habitual constipation, the bowels seldom having moved without the aid of aperients or enemas. The patients will probably tell you that they have not been absolutely constipated, but they have been in the habit of passing a loose watery motion which, however, did not give them much relief. This is the "spurious diarrhœa," which depends on the catarrh excited above the mass which dissolves part of the accumulation and finds its way beyond and appears as a slight watery motion.

Sometimes we may trace a hereditary cause. In fact we may say that all the causes of chronic constipation are also causes of fecal accumulation,

although of course this is very far from saying that every case of chronic constipation will necessarily result in fecal accumulation.

The three great factors that bring about chronic constipation, and which in the long run may cause fecal accumulation, are :—

1. *Diminution of the Expulsive Power of the Intestine.*

Sometimes this is due to alteration in the muscular fibres, but more often it is the result of interference with the nerves. Sometimes both may be affected as in the constipation which results from peritonitis.

2. *Diminution of the Expulsive Power of the Abdominal Muscles.*

This results from various causes, e.g., distension, accumulation of omental fat, presence of tumors, e. g., ovarian, or of course anything that causes malnutrition and consequent weakening of the general muscular system.

3. *Increased Resistance.*

(a) From altered conditions of the feces, dryness, hardness, or bulkiness, (b) from resistance to the movements of the intestine from adhesions, (c) diminution in the lumen from any cause, (d) pressure of other parts (kinks or abnormalities in curvature of different parts of the large bowel predispose to fecal accumulation, especially in the sigmoid flexure) or of new growths.

Any one or all of these causes may be the beginning of an obstruction. The condition may pass on to absolute paralysis of a segment of the bowel, which will lead to complete arrest of the intestinal contents and the symptoms of obstruction. This ileus paralyticus, as it is called, may result in a considerable portion of the bowel being incapable of peristaltic movement, hence fecal matters collect, and even the increased force of the contractions of the upper part of the bowel does not force them onwards, but merely serves to increase the amount of feces in the place. Then the bowel becomes distended, the muscular fibres stretched and even ruptured, and the longer this goes on the more remote is a chance of recovery. The feces become more and more solid from absorption of the fluid portion and a hard dense mass is left. Irritation is necessarily set up by this and stercoral ulcers form, which in turn may lead to perforation, or if things do not go quite so far, will almost to a certainty lead to chronic peritonitis.

Immense quantities of feces have been found in such cases ; at times one is apt to think that the imagination of the practitioner has added to results. Some talk of a bucketful and others mention thirteen pounds, and even one goes up to sixty pounds. On this latter some doubt has not unnaturally been thrown. I shall not attempt to state how much came away from the case mentioned above lest you should think that I was magnifying the case.

*Symptoms.*—I have already touched on some of these in mentioning the chronic constipation and the spurious diarrhea.

In marked cases the abdomen becomes distended, the patient complains of a sense of weight and fullness in the abdomen, appetite is poor, tongue foul, and breath offensive. He is much troubled with indigestion and painful distension after food, by flatulence and eructations. One is not surprised that he becomes weakened and loses flesh. However as I mentioned above the case I saw was in a very good state as regards strength. Moroseness and even hypochondriasis will result in some cases. In an advanced case where there is considerable distension, or where the tumor is of great size, we would expect the presence of pressure symptoms, and in many cases they are present. Thus pressure on the diaphragm from the distended bowels leads to interference with the action of the heart and palpitations occur, and dyspnea from this and from pressure on the bases of the lungs. Pressure also occurs on the nerves, principally the lumbar and sacral, and pain is felt in the distribution of these nerves. Some unpleasantness may also arise from pressure on the veins, and cases of varicocele and hemorrhoids have been caused.

The constipation may last for weeks or even months, and usually the patient suffers considerably, but not always, as in the case mentioned above. In spite of the bad condition into which they get, it is surprising how quickly they pull up once they have been relieved naturally or by means of medicine or enema.

There have been many cases of prolonged absolute constipation recorded. A lady of thirty-five, who had an evacuation of the bowels only every three months, or four times a year. A man, thirty-six, absolutely confined for eighteen weeks, at the end of which time he passed a motion naturally, but died immediately after. A man, twenty-six, had no evacuation of any kind for eight months and sixteen days, and there have been other cases reported where the time has varied from a few weeks up to nine months.

Other patients may not suffer from permanent or almost permanent obstruction as some of the above, but may be merely subject to obstructive attacks.

In these cases it is probable that the much narrowed canal becomes suddenly blocked, whereas in the other cases the blocking was a gradual process. The sudden attack may be due to one of two causes: (1) dislodgement of a hard mass of feces, (2) or to the bending or kinking of the bowel. While the phenomena of chronic obstruction are more dependent on the obstruction than the symptoms of acute obstruction, still one cannot but notice that the symptoms seem altogether disproportionate to the extent and length of time of the obstruction. Severe and acute symptoms are usually due to injury of peritoneum or of nerves. Two prominent symptoms depend on the obstruction, namely, the vomiting and the distension, but this refers more to acute than chronic, or to an acute attack following a chronic obstruction.

The final symptoms are due very often to septic poisoning, and even if the source of obstruction be removed the patient may fail to recover.

The important and most prominent symptom of fecal accumulation is the presence of a tumor. As mentioned above the most frequent seat of the accumulation is in the cecum, and after that the sigmoid, then the hepatic and splenic flexure.

So most often the tumor is found in the cecum and with varying frequency in one or other of the remainder. The tumor usually forms a hard irregular globular mass with little or no pain. The amount of pain depends on the extent of the damage done to the inner lining of the bowel by ulceration and consequent peritonitis. The shape and feel of the tumor will vary with the situation. For example in the cecum it is usually hard and globular. In the ascending colon it is usually more cylindrical and softer. Those in the transverse colon are more movable than those in the other parts, and at times they may hang down into the pelvis, at other times they will retain their position and then difficulty of diagnosis from increased liver dullness will arise.

In the sigmoid and the rectum the tumor is usually hard and scybalous, and in this situation has been compared to a large rosary.

These masses may easily or only with great difficulty be made to give way under the pressure of the fingers like a piece of dough. In the above mentioned case it was only by the exercise of great strength that any impression was made.

With reference to the passage of motions at the same time as an accumulation is present; in addition to the spurious diarrhea which may occur, normal motions have been passed. How this occurs it is hard to say. Osler says that these large accumulations sometimes get tunnelled and that then a normal motion will pass through and appear as an ordinary motion, thus leading one to think that the tumor present is not a fecal one at all, but in all probability one outside the bowel, connected with some other organ.

#### DIAGNOSIS.

Fecal accumulations have been mistaken for cancer, for sarcoma as in Case 2, for chronic intussusception, for tumors of the liver, spleen, and kidneys, for ovarian and other pelvic tumors and for pregnancy.

As a preliminary I would say that no diagnosis of any abdominal tumor should be definitely made until the patient has been examined under *chloroform* as well as without it.

The history is a very important agency in aiding the accurate diagnosis. Let us take the things one by one.

*Cancer.*—This may be cancer of the bowel itself when it begins in the Lieberkuhn's Follicles, or it may be cancer of the mesentery. While it does

sometimes occur primarily in these situations, it is the exception for it to do so. We usually find a primary source elsewhere. In case it is primary we usually get a history of tumors in the family and the patient will usually be found cachectic by the time the tumor has got to such a size. Enlargement of some of the glands will usually be found, and if the intestinal disease is primary there may be secondary foci elsewhere, e. g., liver, etc.; whereas on the other hand, the history of the prolonged constipation, and even of complete or almost complete obstruction, with all the other dependent gastric and other symptoms with the absence of multiple tumors, or of enlargement of glands, or of a primary growth elsewhere, or on the other hand, of secondary deposits, will all speak in favor of fecal accumulation.

*Sarcoma.*—This may be either of the intestine itself, or else of the mesentery. Which the above case was I do not know. Sarcoma of the bowel itself is, I understand, not very common. The absence of enlarged glands will obscure the diagnosis of this condition, and it may be difficult, if not impossible, until treatment has been undergone for some time to come to a definite conclusion.

*Chronic Intussusception.*—This is usually in the ascending colon, and therefore is apt to be mistaken when the fecal accumulation lies in the ascending colon. There will be a difference in the feel of the tumor; hardens during handling or griping as well as in the history of the case. Vomiting and pain are more common in this condition, and there is not usually any prolonged constipation or obstruction. Blood is frequently passed per rectum. The pain is more paroxysmal than the pain in fecal accumulation when pain is present in the latter condition.

From solid tumors of the liver, spleen, stomach, bladder, and kidneys the history of the growth, and especially its direction of growth and the absence or presence of motion when any of these organs are moved, will form a help. The condition of the urine, the absence or presence of blood in it, and the position of pain, will aid. The downward growth of tumors from the liver, spleen, etc., and the forward growth from the kidneys and the upward growth out of the pelvis in cases of ovarian, or uterine tumors, is a very important element in making a correct diagnosis. In the case of ovarian or uterine tumors there will be accompanying symptoms which will lead one in the right direction. There is no need to-day to enter into any account of these.

With reference to the diagnosis of the position of the fecal accumulation enough has been said above when discussing the usual position and symptoms. All that need now be added is a point as to the diagnosis as to whether it lies in the small intestine or in the large. As I said above it is only very seldom that any fecal obstruction occurs in the small bowel, and still less frequent is it for any definite tumor to form. However when one has formed,

this point is worthy of note. The tumor occupies the more central portion of the abdomen, the umbilical, and part of the immediately surrounding regions. And in addition there is a depression in the lumbar and inguinal regions which are usually filled up in the case of accumulation in the large bowel.

#### PROGNOSIS.

In the majority of cases this is fair. The masses of feces can usually be broken up by treatment and the entire quantity expelled.

The seriousness of the case increases with the length of time the accumulation has existed, and the length of time there has been complete obstruction. The greater the pain, the greater is the probable ulceration, and consequently the more serious the attack. An acute attack of obstruction following on a chronic attack is serious and may terminate in death. As the case progresses, symptoms of septic infection render the case more serious, and a fatal issue is to be feared. This even results when the obstruction has been relieved.

#### TREATMENT.

I need not now enter into the preventive treatment, however interesting that might be. The question of the treatment of chronic constipation is one of great importance and one that would well repay a special paper and a special discussion. So I shall pass on now to discuss the treatment of a case of fecal accumulation and obstruction, that is, a chronic case without any acute attack supervening.

The treatment may be considered under the heads of medicinal, operative, and other methods.

The second being a short one I shall dismiss it in a few words.

On page 515 of the *Annals of Surgery* for 1887 you will find a case recorded. A young lady, twenty-four, had suffered from fecal accumulation which had been removed by ordinary means. Some years later she had another bad attack, which this time did not give way to the former remedies. A mass was felt in the sigmoid flexure which would not descend into the pelvis. Injections were of no avail, owing to the compactness of the mass. Treatment in this direction failing symptoms of complete obstruction supervened, vomiting followed every meal, and no fecal discharge took place. The patient being in a bad way, she was put under *chloroform* and the operator proceeded to dilate the anus. Finding this impracticable he divided the whole structures back to the coccyx. The hand then easily passed in, a long tube was inserted and warm soaped water was injected. The big mass at the top of the pelvis was easily grasped by the hand and crushed, and after the arm was withdrawn the whole of it was expelled. Eventually the colon was thoroughly explored and freed from feces. Sutures were inserted, a



soft elastic catheter passed into the bladder, and *opium* administered. Seven years after the patient was in good health.

This operation would only of course be effectual where the accumulation was in the rectum or in the sigmoid flexure. It would be impossible to reach it higher up. *Lumbar colotomy* is advised by some when all other measures have failed. Treves says that the cases which require this are very few, and that most of the cases where it was done, were cases of mistaken diagnosis. It must, he says, be undertaken only in extreme cases. In fact such a procedure should be regarded as a surgical misfortune rather than a means of treatment.

#### MEDICINAL TREATMENT.

As a rule it may be said that *aperients* do more harm than good. Still in Case 1 the patient was put on large doses of *calomel*, without at any rate doing him any harm, even if it did not do him good. He never suffered any ill effects in the hydrargyrisms. He was put on five grains once a day at first and then it was increased to ten grains, and on one occasion he got as large a dose as fifteen grains. I doubt if the case were my own I would proceed to such lengths, but still am glad that I saw it was possible to give such large doses without any ill result.

The patient was of course treated dietetically and was fed on the simplest and most digestible food; milk being avoided altogether.

*Metallic mercury* in large doses has been advised, but this, though it has the honor of dating back to the days of the Romans, is not to be recommended; much harm often resulting.

On the whole I rather incline to the idea of doing as little as possible by the mouth and stomach and confining the treatment to below the mass and externally. However there is one procedure which will certainly do no harm, and which is productive of good, and that is, to wash out the stomach. This seems to act by reflex action and helps the other means employed below.

The other means resolve themselves into various methods of local treatment.

The means on which most effort is expended, and which is productive of most good, is the use of enemata.

The method of administration is an important one:—

(a.) Position of the patient. The best position undoubtedly is the knee-elbow position.

(b.) Methods of administering the enema.

Ordinary Higginson enema syringe.—On no account use this. Syphonage is a far safer and surer method, whether you use the long or the short tube. Treves and Thornley Stoker both say that the long tube should not be used. Treves says that it is impossible to pass it up without kinking it, or without the risk of doing some damage to the parts by the tube catching in a

fold, or bend of the gut. He says that even in the dead body he has failed to pass it beyond the upper part of the rectum.

I do not of course wish to contradict these two great authorities, but I must say that I have thought I got the tube farther up in the two cases mentioned above and in other cases as well. However let that be as it may, the authorities say it is better not to use the long tube.

By this means an ordinary fluid enema is introduced. Various fluids are used—*soap and water, thin starch, oil, magnesium sulphate, linseed tea.*

Quantity to be introduced, etc.: From one to three pints of water or *linseed tea* or *starch paste*, one pint of *olive oil, magnesium sulphate* one ounce in a couple of pints of water.

The patient being in the knee-elbow position the tube is inserted and passed as far as it will go. No force to be used. It is better to pass it through a ring of rubber, so that some pressure may be kept up on the anus to prevent a reflux. The tube is filled before being inserted to prevent the entrance of air. The tube being in position, the syphon is raised; the height being regulated by the patient's feeling, partly and mostly by your knowledge of the condition. As soon as some fluid enters, the patient expresses a desire to defecate, then pause for a couple of minutes, telling the patient to keep it in, at the same time keep up pressure with the rubber ring on the anus. After some time the desire passes away and you can then pass in some more.

Thus you get in some three pints. Keep up pressure for some time, telling the patient not to strain. After it has been in some time to allow it to dissolve the hard feces it can be allowed to come away. This had better be done twice a day if possible, or if not, at least once; the other enemata can be administered in the same way.

Another form of enema, so to speak, is an air one, that is, you fill the intestine with air; the best means of doing so is by means of Lund's inflator; by this means air can be put in at a considerable pressure.

Some time ago a considerable number of German physicians were using injections of *carbor dioxide*; this was given in one of two ways, either by attaching the rectal tube to a large syphon which would hold a quart, or by causing the gas to be generated in the bowel itself. This was done by first of all putting in a solution of *sodium bicarbonate*, which was thrown up as high as possible, then a solution of *tartaric acid* was thrown up, after which an additional quantity of water was injected. Great care is taken in injecting the solutions, and they are put into the bowel slowly and in three or four parts. Ziemssen says that for complete dilatation of the colon in an adult twenty grains of *sodium bicarbonate* and fifteen grains of *tartaric acid* are required. This method has been attended with very good results. The other methods are those that may be called external.

**MASSAGE** of the abdomen and the fecal mass.—This was attended with very good result in Case 1; the tumor was kneaded and moulded and thus considerably softened and the bowel wall stimulated to contract.

**ELECTRICITY** was also applied to the abdomen to stimulate the intestinal muscles to contract, and so force on the softened mass.

As the hard masses descended into the rectum they were washed out with an ordinary hot water enema, but at times it was necessary to further break them up and remove them with the fingers or with a spoon.

I have just briefly touched on some of the principal points. I feel that such a subject and the cognate one of chronic constipation is one of great importance, and at some future date I trust some one better qualified by experience will give us a paper and open a further discussion on this and on the question of the treatment of chronic constipation.

Considerable skill is necessary in the management of a case, and if one succeeds great credit is obtained, whereas if one fails and another succeeds one's reputation is apt to suffer.

My experience in China is not sufficient to warrant me in offering an opinion as to whether fecal accumulation is as common, or more common, or less common than in the home practice. Those of the members of the Association who have been practicing in China for many years will be able to give us juniors some information on this subject as well as on the other matters connected with this interesting subject. What is the bearing of a vegetable diet, such as a good many of the Chinese go in for, either entirely or in good part on the question of constipation and fecal accumulation?

*Wesleyan Methodist Mission, Hankow.*

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## CHINESE MEDICAL EDUCATION.

By H. T. WHITNEY, M.D.

The beginning of the twentieth century marks the most important period in the history of the world, as far as the history of nations reveals. Many things have been left undone that ought to have been undertaken in the dim past. Many things have been instituted on right principles, but have not been prosecuted with efficiency nor attained satisfactory results; and many more things remain to be either begun or modified and pursued with vigor and perseverance on a basis commensurate with the needs and opportunities demanded by the age and country in which we live.

Among the more important things needing special attention in China is the subject of the medical education of the Chinese. It is a broad subject, and only one or two phases of it will be referred to in this article.

## THE NEED.

Physicians and many others in China do not need to be told of the need. It is not so clear to others, however, both in and out of China, especially many who ought to be interested in and have a share in so important a work. In a country like America with one-fourth of the population and a physician to every five hundred of the people, full of drug stores, plenty of hospitals, numerous medical schools flooding the country with a surplus of doctors, and the laity fairly intelligent medically, it is not easy to appreciate the needs of a country where the exactly opposite conditions exist—no Chinese medical college, no Chinese physicians proper, no medical science, no Chinese hospitals, and the people wholly ignorant of the first principles of caring for themselves and relieving suffering. All that is, or has been done, has been effected by medical missionaries, port physicians, and a few others. This, considered by itself, amounts to a great deal, and has been a great boon to the people that it has reached and is worthy of the highest commendation, but when considered in reference to the nation as a whole it is only the few rain drops as compared to the shower, or the shower as compared to the long rain. The first and greatest need therefore is medical schools, one or more in every province of China. Some think that hospitals and dispensaries and opium asylums are a more pressing need. These, it is true, are very needful in their places, but it is only like the pruning and nursing of old and nearly spent orchards as compared to the setting out of new trees that will soon develop an abundance of fruit sufficient for all. The present relief of suffering done, however extensive, with the education of only here and there a medical student, makes no provision for supplying the needed medical knowledge and service necessary to the peace, happiness, and prosperity of the people. It is true there are more than a hundred hospitals in China and more than as many dispensaries with one or more students in each, and they are doing a service only second in value to all that is being done for this people, and when we look at them in detail it is only a handful scattered here and there through a vast region of dense population, the majority of whom have no opportunity of obtaining relief of any sort. If in the United States it is thought necessary to turn out a thousand and more new doctors each year to meet the needs of eighty millions people, what do the Chinese need to supply the wants of over three hundred millions? The ignorance of the people in regard to hygiene or the simplest methods of relief in sickness is extreme. The government does nothing medically for its soldiers, a first duty, nor for the people in general.

Medically China is but little in advance of "Darkest Africa," considered apart from what Western nations have done for her, and the light that has come to her from without in years past has done much to prepare the way for extensive reform both in medicine and in other forms of education and civilization, and the experiences of the year nineteen hundred is but the

Chinese way of breaking with the past, and will eventuate in furthering many of the medical reforms necessary to enable China to be classed with other important nations of the world.

#### OPPORTUNITIES.

There has never been a more opportune time than now for extending the medical work already begun. True the Boxer movement is a temporary hindrance, but is believed to be only like the depression of the increasing wave that reappears more prominent than ever. There is no question but what China is preparing for great strides in the near future, and the opportunity is now before us to serve among the leading abettors and conservators of the nation, and we ought to enter every open door that looks to the betterment of the people. It will be a sad day for China if infidels and cranks get control of the leading avenues of influence.

The improved condition of mission schools of all grades furnishes a larger number of student graduates desirous of studying Western medicine, and the opportunity should be given them to obtain the object of their choice and fitness. There are some difficulties in the way of doing all we would like to do in the way of medical education, but wise planning and concerted effort as far as possible, will enable us to accomplish a great deal more than we can ever hope to do single-handed. The greatest difficulty with most of the mission medical works is the inability through the paucity of help to carry out systematic instruction of students. It is on this account that much has been said in several localities during the past few years about the advisability of trying to combine the teaching force in places where two or more medical works exist, and also of establishing one or more central medical schools in different parts of China, and it is thought by many that the time has come to bring the matter before the Association through the *JOURNAL* and also in this way to impress the need more forcibly upon the attention of others with the hope that in the near future some relief may be realized, at least in the more important centers. The preliminary steps that have already been taken, looking toward a central medical school in Nanking or Hankow, or possibly in both places, will probably be somewhat fully reported in this issue of the *JOURNAL*. There is apparently no question about the desirability of one or two medical schools in the Yangtse valley to meet the needs of the various medical works scattered all the way from Shanghai to the Szchuan province, a distance of over fifteen hundred miles and embracing some of the richest and most populous regions of China. While it may be true the medical schools thus located would not receive but comparatively few students from the north and south, yet the needs of that large and populous region are sufficient in themselves to warrant no inconsiderable outlay for this kind of work. As to the probability of few students coming from other regions owing to distance, expense of travel, difference in dialect, etc., they would doubtless be a hind-

rance at present. But the future outlook for China augurs a removal of these difficulties in a large measure. When the trunk and branch lines of railways between Peking and Canton shall be completed, both distance and expense will be greatly lessened. The matter of dialects is no great hinderance, as the text books would all be in Wên-li, and the oral instruction would be partly understood in a few months and readily so after the first year, and the difference in the spoken language should not be considered a special hinderance to students planning to spend two or three years at such a school. It seems quite probable that in the near future China will be sufficiently well enlightened to see the wisdom of furnishing her army and navy at least with properly qualified native physicians, and when such a time does come, there will be a great draft upon all medical works to supply such a demand as well as crippling the present inadequate force and so cut off the only source of supply. The fact of such probable danger is a strong additional reason for having medical schools capable of meeting such needs. But the great thought above all should be for the masses. The Chinese are a great and important people, and humanitarianism alone, to say nothing of Christianity, should look to the adequate provision for saving valuable lives and the mitigation of suffering.

Missionary and other physicians can never hope to more than touch the fringe of such work through hospitals and dispensaries alone. Medical schools must be provided for the extension of accurate medical knowledge and the supply of native physicians. It is urged by some that the Chinese do not appreciate the worth of Western medical science, and only a few natives can get a living by practising medicine. While this was largely true twenty years ago, and to some extent now, yet the conditions are rapidly changing. There is a greater demand by young men now to learn medicine because a multiplied number of them can get a living now to what they could ten years ago. Calls are coming frequently for the best native physicians to go to other places at much higher pay than we can give, and we lose our best men and are constantly in need of the best educated ones for our own work, and the prospect is that this condition is going to continue until we can have medical schools to supply the demand. The sale of one hundred copies a year for twenty years of dry anatomies and the proportionate larger sale of the more interesting useable medical books and the very large annual sale of drugs show the interest the Chinese take in medicine and the desire they have to obtain its benefits. Scores of students are now ready to pay something to obtain a medical education, where a few years ago there was only an occasional one so disposed. These and other reasons are apparent, why we should now take steps not only to improve and broaden out our own works but also endeavor to establish medical centers to help meet the larger need that lies all about us wholly unsupplied.

We have purposely refrained from touching on certain phases of this subject which will doubtless be covered by others. Much will need to be said and done in order to impress the Chinese need sufficiently upon the minds of those who should have a share in this great work of the century. Now is the accepted time and the day of salvation for this people, both physically, spiritually, and every other way. The diagnoses have been made, the diseases determined, and the remedies are at hand; it only remains for the means to be supplied and applications to be made.

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## THE MEDICAL SCHOOL.

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By DR. PHILIP B. COUSLAND.

To justify starting a central medical school in China it must be shown :

(1) that native practitioners of Western medical science are needed, (2) that there are openings for such men to practice among their fellow-countrymen, (3) that it is desirable that those required as assistants in the various mission hospitals and dispensaries should have a more thorough training than can be given at their own stations, and (4) that there are young men desirous of undertaking such a course of study.

1. We are doubtless all agreed upon this point.

2. Suppose a man goes through a pretty thorough course of training, can he make a living by practising among his fellow-countrymen? As far as this part of China is concerned I should certainly answer, Yes. There are a number of ex-hospital assistants practising, and they all seem to be doing well financially. And in addition there is a large number of totally untrained Chinese—ex-house boys, ex-hospital coolies, ex-school boys, who either peddle medicines or boldly advertise themselves as *practitioners of Western medicine*, so that we have here an appreciation of, and demand for, Western medicines and methods of diagnosis and treatment with such a totally inadequate supply of those qualified to meet this demand that quackery is rampant and the reputation of scientific medicine must suffer accordingly. It is possible, too, that before long there may be a call for trained medical men for the army and navy.

3. Judging from what one hears and reads it would seem that there is a manifest agreement that the numerous demands upon a medical missionary's time and strength prevent him giving his students and assistants anything like so thorough a training as he could wish. And then there is the dissipation of energy in thirty or forty men each training small classes when a few teachers in a regular school could accomplish it all. So that by having a central medical school the men would not only be better trained but a great economy of labour would be effected in medical missionary work. It has been objected that it is quite uncertain that men sent up to a medical school to be trained, with the idea of utilizing them as hospital assistants,

would be willing to accept such a post after graduating. This is quite true, but the percentage of loss will depend upon the care taken in selecting the men and the influences brought to bear upon them while in school. It will seldom happen that a man will not be willing to serve at least for a term of years. My experience of the Chinese is that if educated by the mission with a view to engaging in mission work afterwards they recognize the obligation and try to fulfil it.

4. Whether there are or are not young men desirous of qualifying in medical science must depend a good deal on the opportunities for utilising it. Here there is certainly a demand. All our hospitals have plenty of student-assistants who pay their way for the first three years, and a few men have gone to Hongkong to study English and then take the medical curriculum in the medical school (English) there. Of course it does not follow that all who are anxious to study medicine would go to a central medical school. The expense would prevent some, and there are always a number who do not care to study hard, knowing that a superficial acquaintance with the common eye, skin, and general diseases, and minor surgery, will enable them to make a comfortable living. Yet there will certainly be some whose ambition and means will take them to Nanking or wherever the school is founded, and it will be a great advantage to our hospital work to be able to send suitable men to have a thorough training.

I doubt if the language difficulty would deter any. It is a great point with many to acquire mandarin. Distance and poverty will doubtless, as I have said, prevent some would-be students, and it may be necessary for some years to continue our hospital schools, in which case a system of examinations, something like the Cambridge locals, might be arranged, and we would have the satisfaction of having our men examined by a competent and impartial board that would represent a certain standard for the whole of China. Of course this would apply only to written examinations.

If there are any medical missionaries who would regret giving up their opportunities for clinical teaching they could have their men take two or three years at the school and come back for the rest.

Other advantages that have long weighed with me are that the teachers in such a college could take a large share in publishing a good Chinese medical journal and in translating medical books.

China sadly needs healing of both soul and body, and if we can found a college where shall be trained—and well trained—in a strong Christian atmosphere those who shall minister to both those needs, or even in some cases to the physical infirmities only, of the people, we shall be doing a work that shall profoundly influence and benefit China and greatly enhance and extend the work we are already doing.

*Chao-chow-fu, Swatow.*



## Medical and Surgical Progress.

### Medical.

Under the charge of Robert T. Booth, M.B., B.Ch., R.U.I.

#### PRODROMAL RASH IN MEASLES.

As early as 1896 Koplik, of New York, described spots which appear on the mucous membrane of the mouth in the pre-eruptive stage of measles. This eruption is absolutely pathognomonic, although recent investigations have not shown that it is present in every case. This eruption is of definite character. In strong daylight it appears as small irregular spots, bright red in color, in the centre of each is a *bluish white speck*. In the beginning they are less than a pin's head in size, bluish white in color, regular, circular in shape, sharply defined, surrounded by a red areola, which areola enlarges and becomes irregular. In the developed state these spots are discrete, but later on they may coalesce and form large irregular patches. The usual situation is the buccal mucous membrane, especially on the cheek opposite the second molar tooth of both upper and lower jaws. They occur also on the lips, and have once been seen on the tongue. They never are found on the hard, or soft palate, nor on the fauces. They appear any time from twelve hours to five days before the appearance of typical measles rash. Their number does not give any idea as to the prognosis of the case. These spots can be removed by means of a forceps without much difficulty, and on microscopical examination reveal the presence of bacteria and epithelial scales.

Since Koplik pointed out the presence of these spots as pathognomonic, their presence has been confirmed by many competent observers. Rolly and Cohn have both noted their presence, but say that Koplik has stated too decidedly their **CONSTANT** presence. They agree, however, that their presence is absolutely characteristic of measles.

Those of us in charge of hospitals where many children come for treatment ought to be able to find these spots. It would be interesting if notes were made at the time and published later on. I commend this to the members of C. M. M. A.

#### BRASS POISONING.

It has probably fallen to the lot of some medical missionaries to come across cases of the above. Considering the amount of work done in brass in China, it will not be wondered at if some cases at times find their way to our hospitals. The literature on the question of the symptoms and treatment of this disease is very scanty. Greenhow in 1862 described brassfounders' *ague*, and in 1887 Hogben published an article on brassworkers' disease, followed in 1888 by Simon, who discussed the conclusions of Greenhow and Hogben and made some original contributions. Dr. William Murray in the *B. M. J.* has recently written on the subject.

Some workers seem to enjoy a permanent immunity, others are only affected after many years, while others are affected almost immediately. He describes the symptoms as they occur early or late in the history of the case.

**Early Symptoms.**—In young women and boys the first symptom usually is *anæmia*. It is seldom seen in adult males. There may be palpitation and dyspnoea on exertion, as well as dyspeptic symptoms such as usually accompany *anæmia*, but they are not generally very acute. Tachycardia is fairly common, while nausea vomiting, thirst, colic, are not infrequent. Hogben says that constipation and diarrhoea are early symptoms, but Murray considers them comparatively rare and more probably

belonging to the late stage. There may be slight indefinite neuralgic pains, headache, sense of weakness, malaise, nervousness, greater than in ordinary cases of anæmia. One of the earliest symptoms, occurring even prior to the anæmia, is the presence of the "green line" on the teeth. This, Murray points out, occurs on *the teeth* and *not on the gums*, as stated by Arlidge and Taylor. It forms a band of varying depth in front of the bases of the teeth, just where they emerge from the gums, and is most marked on the teeth of the upper jaw. Color varies from faint greenish hue in ill-marked cases, through brilliant green to a very dark olive. Not infrequently a thin purplish congested-looking line is also visible on the immediately adjacent edge of the gum, but this has no diagnostic importance.

**Later Symptoms.**—As the disease advances the subcutaneous fat diminishes, and a condition of progressive emaciation supervenes, which in due course becomes one of the most marked symptoms of the complaint. This wasting may extend to the muscles also, which seem to undergo some amount of atrophy. Loss of strength is invariably evident, and muscular tremors sometimes general, more often confined to the hands or the tongue, very frequently occur. Knee-jerks are normal or exaggerated, except when peripheral neuritis exists. Headache and variable neuralgic and myalgic pains are complained of. Paraplegia sometimes is present. As a rule there is dyspepsia, with loss of appetite and gastralgia, and occasionally sickness and even vomiting. Tongue is furred, moist, and tremulous, the bowels are normal, loose, or confined. There may be a slight tickling cough, which is sometimes accompanied by a thick tenacious sputum, and occasionally by hæmoptosis. The complexion changes from the waxy whiteness of the early stage to the dirty, sallow, "unhealthy" aspect so often seen in phthisis, while at times there may be a distinct

greenish hue, not unlike but distinct from that of chlorosis. In addition to the above there are also symptoms of pharyngeal, or laryngeal catarrh, aphonia, dryness, discomfort, or constriction of the throat and metallic taste in the mouth. Nervousness, fainting fits, profuse sweatings, sensations of coldness, possibly confined to one part, are also complained of. The sweat stains the shirt green, and the same color may be noticed in the grey hair of old men and in the palms of the hands. Pruriginous eruptions, acneiform, or eczematous, are found in various parts, *e.g.*, face, neck, shoulders, interscapular regions, abdomen, or legs. Itching may be complained of without any visible eruption.

Among brass workers phthisis is said to be exceptionally common, and this is possibly true; but there is no doubt as to the prevalence of pulmonary fibrosis, the result of the chronic bronchial catarrh from which nearly all the patients suffer.

**CAUSATION.**—Some authorities are in favor of the zinc as the prime cause, but the balance of opinions is in favor of the copper. This is borne out, clinically, by the fact that the green line is due to a deposition of copper. Absorption takes place through the respiratory and alimentary tracts. The fine particles suspended in the air are readily inhaled, and thus conveyed to the lungs, while eating with unwashed hands causes the particles to enter the stomach.

**TREATMENT.**—Simon recommended *iodide of potash*, but Murray does not agree to this, not having found it of any use in his cases. It occurred to him that as *sulphate of copper* is the *antidote of phosphorus*, the latter might antagonise copper. He gave pills containing  $\frac{1}{30}$  gr. of *phosphorus* three times a day. The results exceeded his anticipations, and the patients rapidly became well. After a time *acid. phos. dil.* was tried in fifteen minims three times a day, and the results were even more encouraging. This is explained probably by the fact

that the *phosphorus*, when ingested, becomes converted partly into *phos. acid*. But some cases occurred in which the pure *phosphorus* reacted better. Under this treatment the above symptoms rapidly disappeared and the patients soon recovered health. Milk should be given as a beverage; it has acquired a great reputation as a corrective to the influence of brass.

Prophylaxis is practically similar to that of plumbism.

#### TREATMENT OF SMALL-POX BY SALOL.

It falls to the lot of most practitioners in China to see a fair amount of small-pox, and at times this loathsome disease finds its victims even in our mission circles themselves. It is therefore with interest that we read of any new treatment which will not merely prevent "pitting," but, during the course of the disease, will allay the tiresome and intolerable itching, and in almost all cases will prevent the occurrence of the secondary fever, during which stage a fatal termination is most common. Dr. Charles Begg, late of Hankow, whose name is intimately connected with the treatment of sprue by *yellow santonin*, has recently written recommending the use of *salol* in the treatment of small-pox. The drug had previously been given especially to check diarrhœa of small-pox, but Begg claims for it the power of practically arresting the development of the rash in the vesicular stage, only a few pustules being formed when the drug is administered in daily doses of sixty grains. As a subsidiary effect he has noted the absence of cutaneous irritation, which is one of the most distressing features of the disease. He attributes the efficacy of *salol* to its selective elimination by the skin, as proved by the odour emanating from patients who are taking it. Biernacki and Jones writing in the *B. M. J.* last June enter into the subject and admit Begg's theory and suggestions. Admitting the cutaneous secretion of

*salol*, or rather of some antiseptic derivative, it appears to them that in the vesicular stage of small-pox the conditions are favorable to the production of the effects mentioned. No doubt the specific virus is present in the vesicles, but the conversion of the vesicular contents into pus is due, in part at least, to secondary microbes, especially staphylococci. It is reasonable therefore to expect that *salol* would inhibit their growth. Since the secondary fever is due to the absorption of toxins from the pustules it must follow that if pustulation is prevented there must be proportionate amelioration of the fever. In the absence of pustulation there will also be diminished scarring. They then quote several cases in which this method of treatment was followed and show that *salol* may practically avert general pustulation, and even have a partially abortive effect when given after maturation has commenced. The influence of the treatment on maturation is, however, not constant in degree, and in one case was very slight. Cutaneous irritation is slight, and even in confluent cases irritation is commonly absent. There is an entire absence of unpleasant odor. Scarring is inconsiderable, and often absent; the scabs falling off with great rapidity. The most remarkable effect of the treatment is its effect on the secondary fever which, if not altogether absent, is as a rule of little importance. In the opinion of these writers this method resembles, but surpasses in its results the red light treatment.

However it is probable that most of us would combine both methods in any cases that come under our care. *Salol* can be given up to fifteen grains every four hours. Begg was led to try *salol* to relieve irritation in small-pox by the experience of a patient who was taking one drachm daily of *salol* for cystitis. This patient had previously suffered severely from irritation of mosquito bites, but while taking the *salol* he found that though bitten daily he suffered nothing.

## KERNIG'S SIGN.

One of the most valuable pathognomonic signs of disease discovered during recent years has been that found by Kernig, and said by him to be pathognomonic of meningitis. In the year 1884 he first drew the attention of the faculty to this sign, which he said was only to be found in cases of affection of the pia mater, and never lacking in inflammation of that membrane. In order to elicit this sign the patient must be sat up, *e.g.*, on the edge of the bed; the thigh being flexed at a *right angle*; in this position it is found that it is impossible to extend the leg on the thigh. If the patient cannot sit up, then flex the thigh on the hip as the patient lies on his back; in this position it is impossible to extend the leg. While the patient lies down, the leg easily lies in the extended position. To quote Kernig: "The difference between the complete absence of the contraction when the patient is lying down, and its presence when the patient sits up, is so striking that it is well worth while to examine for it in every case." He demonstrated the presence of this sign in all of the fifteen cases of meningitis, eight of which were verified at the necropsy, thirteen were cases of epidemic cerebral spinal meningitis, one was tubercular, and one was suppurative. He failed to find it in other diseases. In six cases in which there was no sign of acute meningitis the sign was more or less marked, yet in all there was found evidence of pial trouble at the *post mortem*.

He believed this sign appeared as early as the rigidity of the neck and disappeared late. Friis, of Copenhagen, found it in 88 % of *cer. spin. men.* In two of the remaining cases it was doubtful, in two the examination was unsatisfactory, and in three it was absent. Netter found its presence marked in 93 %. He gives the following explanation of its occurrence. In consequence of the inflammation of the meninges the roots of

the nerves become irritable, and flexion of the thigh on the hip when the patient is in sitting posture elongates and consequently stretches the lumbar and sacral roots, and thus increases their irritability. The attempt to extend the knee is insufficient to provoke a reflex contraction of the flexors while the patient lies on his back with his thighs extended. Netter also mentions a case of typhoid fever where this sign was present. The patient died in the third week from perforation, and the *post mortem* showed cerebral-spinal meningitis in addition to the typhoid. Herrick says that he has found this sign present in 89.4%, *i.e.*, in seventeen out of nineteen in the two remaining cases, both children; the single examination was made just before death, and there was general laxity of all the muscles. In one hundred cases of diseases other than meningitis this sign was absent in 98 %. Of the two cases in which it was present, one on *post mortem* showed the presence of subdural hæmorrhage. The other was a case of gonorrhœal arthritis which had been in bed for four months and had lain with both knees flexed, as this was the most comfortable attitude. It is probable that the presence of the sign was due in some way to the attitude. In D. T. and in other spastic conditions some difficulty may be met with in trying to extend the leg when the thigh is flexed on the pelvis; however in such cases it will be found that with patient and gentle force it is possible to do so. In Kernig's sign the patient may be lifted from the bed without the knees giving way, and there is usually some pain at the same time.

Roglet has recently pointed out that this sign occurs in other conditions of cerebral irritation. Spinal meningitis is not essential for production of this sign, for in at least one case of meningitis which ended fatally, at the necropsy no sign of spinal inflammation was found.

The sign was also found in a case of meningeal hæmorrhage, where a clot was discovered in the subarachnoid space, extending forward to the optic chiasma and prolonged over the anterior surface of the pons and medulla and through the foramen magnum; the spinal canal was also full of fluid blood and the upper part of the cord was congested. It was also found in a case of cerebellar hæmorrhage where there was no meningitis.

#### BABINSKI'S SIGN.

Another sign of nervous disease which has attracted some attention during the past few years is that which has been called the "phenomenon of the toes" by Babinski, who first drew attention to it in 1896. He pointed out that normally the phenomenon excited by tickling the sole of the foot is *flexion* of the toes. In some healthy individuals they remain immobile, but they never extend. In certain diseased conditions he found that extension occurred, especially of the great toe, and to this movement he gave the name "phenomenon of the toes." This phenomenon may occur in lesser degrees, *i.e.*, partly physiological and partly pathological, *i.e.*, there may be extension of the great toe, or of the first two toes, and flexion of the others, or stimulation of the outer part of the sole may cause extension of the toes, and stimulation of the internal part cause flexion, or stimulation of any part may at one time cause flexion and at another extension. Collier recently investigated this sign, and in an article on "Brain," has pointed out that in health the plantar reflex, except in infants, begins with contraction of the hip muscles (tensor vag. fem. sartorius, adductors, and flexors of the hip) and then goes on to flexion of the toes. The response may be confined to the hip alone. It is doubtful whether the response is ever constantly and completely absent in health. In infants it commences by

drawing back the big toe, followed by extension of the others. The hip muscles respond late. During the second or third years the reflex becomes adult-like. During sleep the reflex retains the respective forms, but is diminished except in some children under twelve, in which the reflex reverts to the infantile form.

Babinski has found this sign, "phenomenon of the toes," in hemiplegia from organic disease of the brain (on the paralysed side), in paraplegia, in hemiparaplegia (on the paralysed side), in Friedrich's ataxia, in diffuse meningo-cephalitis, in cerebro-spinal meningitis, in strychnine poisoning, in Jacksonian epilepsy (on the affected side immediately after the crisis.) He found it not merely in old cases with rigidity, but also after the onset with muscular flaccidity. In spinal cases he also found it in spastic paraplegia (from any cause), in recent paralysis from injury to the cord, with flaccidity of the muscles and diminution or abolition of the tendon reflexes. He did not find it in uncomplicated tabes dorsalis, in hysteria, in anterior poliomyelitis, nor in two cases of section of the cord. Collier has found it also in syringomyelia, and in total transverse lesion of the cord he found that the extensor response was the only reflex phenomenon present in the lower limbs. In functional cases he found that although the plantar reflex was more difficult to elicit, it was always flexor. In tabes dorsalis, it was absent in 25 %, but when present was always flexor. In peripheral neuritis when present it was always flexor, although present in the hip alone in some cases. In cerebral and cerebellar tumours it was always flexor, if there was no involvement of the pyramidal system. In neurasthenia, chorea, paralysis agitans, poliomyelitis, myopathy, and sciatica it was flexor. In discussing the cause he agrees with Babinski, who attributes it to some perturbation in the pyramidal system, pointing out that all the above cases have that feature

in common. He says moreover that this sign is not a grave one, as it occurs in slight and curable cases. Collier thinks that the "pes cavus" found in lesions of the pyramidal system, in Friedrich's disease, in the family type of lateral sclerosis, in spastic paraplegia and hemiplegia, is intimately connected with the extensor response, being produced by reflex hypertonicity or muscular spasm in muscles responding most vigorously to plantar reflex, *e.g.*, ext. prop. hallucis, tibialis post., and peroneus longus.

Babinski points out that this "phenomenon of the toes" may prove of value in diagnosing hysterical and true paralysis. If present in tabes dorsalis it shows that the pyramidal system is involved.

Some doubt has been thrown on the value of this sign by the investigations of Wood, reported in the *University Medical Magazine*, April, 1900. He states that he found this sign present both in healthy people and in people suffering from non-nervous diseases. He says the response depends on the manner of stroking the foot. If stroked up and down, a flexor response is produced; if transversely across the upper part of the sole near the bases of the toes, extension results. In some cases of non-nervous disease stroking of the middle of the sole caused extension, in some cases the result was irregular. He suggests that the double reflex is an adaptability to environment, the foot tending to grasp an object when it meets the centre of the sole, but that when the base of the toes strikes an object the toes tend to diverge so as to avoid injury. He showed the unreliable nature of this sign as an evidence of disease of the pyramidal tracts. In a case of hysterical paraplegia he found the infantile form present. In hemiplegia with degeneration of the motor tract, in some cases the adult form was present, and in others the infantile form showed itself. In a case of lateral sclerosis the response varied

with the manner of stroking. In healthy children, in one case he found the adult form, and in several the response varied. In children with pyramidal lesion it varied in different cases with the same lesion, and also at times in the same patient. Wood therefore concludes that this "phenomenon of the toes," Babinski's sign, cannot be relied on as a clinical sign. Before deciding against this sign, and relegating it to the oblivion where so many 'pathognomonic' signs have preceded it, we would like to have some more evidence on the matter. In the meantime let us keep our eyes and minds open on the matter.

#### TRICHOCEPHALUS DISPAR.

It has been usually said that the presence of the ova of trichocephalus dispar in the faeces is of no pathological or clinical importance, beyond the mere fact that it signifies the presence of the worms themselves in the bowel. Manson in his valuable work on "Tropical Diseases," page 534, says: "Further than that the practitioner should be familiar with the appearance of its eggs in the stool, so that he may be able to distinguish them from those of anchylostomum, of ascaris, and of other parasites, its presence is of no practical moment. So far as known its presence gives rise to no serious pathological lesion." Dr. Theodor Hausmann in the *St. Petersburg Med. Woch.* has recently drawn attention to this parasite, and a series of symptoms which it produces, and the treatment required to cure them. He points out that it is one of the commonest parasites of the human intestinal tract, and affects from 2% to 17% of the population, according to rank, nationality, age, and domicile. In most countries it is less common than ascaris or oxyurides, but it is always more frequent than tape worms. Our own Hospital Report (Wesleyan Mission, Hankow) shows that we have found them present in about 3% or 4% of our cases. Hausmann says "that the belief that

this parasite does no harm depends on the fact that the symptoms vary so much in different cases that it is difficult to draw any conclusions from them as to the probable cause. They resemble those due to other intestinal worms. Some species of parasite should be suspected if gastro-intestinal symptoms are combined with marked nervous symptoms. General and local neuroses in endless variety—head-ache, grinding of the teeth at night, pruritus, vertigo, palpitation—usually accompany nausea and a sense of pain and weight in the epigastrium and abdomen. One symptom which, if combined with some of the above, is perhaps characteristic of the presence of *trichocephalus dispar*—extensive areas of cutaneous anæsthesia. Constipation or diarrhœa, anorexia or boulimia, may accompany. Anæmia is the rule.”

Of course the adult worm never appears in the stool, so it is only by examination of the fæces that the presence can with certainty be diagnosed. If these are found, and on treatment disappear with the obscure symptoms, the question of cause and effect may be considered proved. It is very easy to recognise the characteristic ova, and with an inch objective even a beginner can distinguish them. Manson describes them as follows: “They are oval, measuring from fifty-six by twenty-four microns to thirty-six by twenty-six microns; the ends of the long axis of the oval being slightly pointed and tipped with a little shining projection or plug. They are dark brown in color, sharply defined, doubly out-lined, and contain no differentiated embryo.”

Hausmann then proceeds to give some illustrative cases, in which santonin brought away numbers of ascarides, but gave no relief to the symptoms, but that as soon as thymol was given the symptoms, concurrently with the ova, disappeared. In discussing the treatment he says: “For crichocephalus, thymol is more efficacious than santonin or naphthalin.

Thirty grains a day is usually sufficient, but as many as 150 may be given. The writer employs Hagarst’s formula: thymol, 2; olivæ, 4; gummi arabic, 2; aq destill., 60, of which a dessert-spoonful is taken every hour in the morning fasting. Early in the evening a strong purgative is given. This treatment is repeated on three consecutive days. The stools should be re-examined about three weeks after they are found free from eggs, and if there is any return the course should be repeated.”

#### TREATMENT OF LEPROSY.

Probably most practitioners in China and the East generally have at one time or another treated cases of leprosy with *chaulmoogra* oil, either by the mouth or byunction, or both. Quite recently Dönitz, in the *Berlin Clinical Weekly*, has called attention to the use of this drug *hypodermically* in the treatment of this disease. He mentions the case of a woman who had contracted leprosy in India, and whose body was covered with large flattened scales. She was first of all given the oil by the mouth, but as it disagreed with her, it was injected subcutaneously. A local and general reaction was produced comparable to that of Koch’s tuberculin. The general reaction consisted in a rise of temperature, lasting for several days, the local in reddening of the affected parts. The redness was most marked in the eyes, and the injections were not repeated until the irritability had disappeared. After a few injections the nodules began to diminish; after four months the greater number had disappeared, leaving behind a bluish discoloration. Others were in the process of absorption. *Sulphur* baths were also given, and probably proved beneficial. The leonine facies gave place to a more human one.

He also mentions another case. The injections were given every ten or fourteen days according to the effect. The dose of the oil was one sufficient to raise the temperature, 0.9°, 0.1 to 0.2

gramme was usually sufficient. In the second the dose was larger, but did not seem to produce proportionate result. The writer believes that the oil has no specific action on the leprosy, since the reaction was obtained by injecting it subcutaneously in a case of tuberculosis. It probably has an irritative action on several morbid processes, including the syphilitic. It is an old remedy for leprosy, but excepting a case treated by Tartoulis Bey in Cairo, the hypodermic administration is new.

#### TREATMENT OF TYPHOID FEVER.

*Olive Oil in the Treatment of Typhoid.*—Owen F. Paget, M.B., B.C., in the *Lancet* of December 8th, 1900, and also previously in 1898 advocates it in the following manner: Slowly administer every twelve or fourteen hours an enema of one pint of *olive oil*. This, if possible, should be retained in the bowels for twelve to fourteen hours. If it is not returned after this time it may be brought away with an ordinary soap-and-water injection, a fresh dose of *olive oil* being given two or three hours after. This treatment is continued for a week or ten days, and is then discontinued, unless a rise of temperature, or constipation demand a further injection. With diarrhœa it is imperative, he says, to give *olive oil*; it is more efficient than *opium* or any other drug in bringing about natural evacuations. Occasionally small doses of *calomel* from  $\frac{1}{10}$  gr.

to  $\frac{1}{2}$  gr. are useful if the oil is not sufficiently stimulating to make the bowels act. With this treatment *bismuth* preparations are unnecessary. Patients treated in this way, according to the writer, *never die*. He believes that typhoid fever *per se* is harmless, that it is the accompanying *sapræmia* or ptomaine poisoning which produces the ill-effects. Under this treatment there are no sequelæ, tympanites, perforations, or heart failure. No cold baths are necessary.

One cannot help feeling that Dr. Paget has given a very hopeful and sanguine picture of the success of this method. Whether or not it will prove equally effectual in the hands of others as it seems from his accounts to have been in his, remains to be seen.

In the same number of the *Lancet*, Wm. Ewart, M.D., F.R.C.P., recommends the following: *Liq. hydrarg. perchlor.*, 20m. and *tinct. ferri perchlor.*, 15 to 20m. with 1 drachm of *syrup of lemon or orange* and an ounce of water administered every six hours during the attack, and for ten days after defervescence to prevent relapse; diarrhœa, if present, is quickly stopped, except in the worst cases, and the constipation which often ensues and coincides with excellent progress is remedied by daily injections of glycerine.

This treatment, he says, is always well tolerated; the dose being given at an interval from the time of taking milk, even if the latter is peptonised.

### Surgical.

Under the charge of Sydney R. Hodge, M.R.C.S., L.R.C.P.

The twentieth volume of the Transactions of the Ophthalmological Society of the United Kingdom has just come to hand, and contains a number of interesting communications which are worthy of attention. Two papers on Tuberculosis of the Conjunctiva are of interest to us out here where so much tubercular disease is seen. In one the diagnosis was fairly easy, there

being coincident naso-pharyngeal tuberculosis, but in the other "an ulcer with hardened indurated edges on the outer side of the inferior eyelid of the left eye" was taken for a primary sore. It was not until the condition persisted, despite specific treatment, that a suspicion of tuberculosis was aroused and confirmed by inoculation of a guinea-pig. One of the speakers



said he had seen four or five such cases at the Children's Hospital and at Moorfields and drew attention to one feature common to all, namely, suppuration in the pre-auricular gland. The treatment recommended was vigorous scraping or the galvano-cautery, either of which might have to be repeated two or three times. A case of sarcoma of the upper conjunctival sac is of interest, not only because the lesion is a rare one, but because the appearance of the tumour was preceded for eighteen months by pigmentation of the conjunctiva; "beyond the pigmentation of the conjunctiva the eyeball was normal." It was pointed out by one speaker that a similar phenomenon had appeared in a case of his which subsequently developed sarcoma, and he gave it as his opinion that pigmentation of the conjunctiva was indicative of malignant disease. There is an interesting paper on "Interstitial Keratitis in Acquired Syphilis." It is only of late years that the possibility of this condition, not always being due to inherited mischief, has been recognised. In this paper five cases are recorded, in three of which the evidence of syphilis was indubitable, whilst in the remaining two "no other cause for the ocular lesion could be discovered." Mr. Lang has recorded a case in which a man had a chancre of the ocular conjunctiva and developed interstitial keratitis in the same eye. An interesting feature in all these cases is the fact that in most, if not all, of them THE DISEASE HAS BEEN LIMITED TO ONE EYE.

Iritis appearing during an attack of gonorrhœa and whilst there is still a discharge from the urethra is a complication well recognised by surgeons, and now Mr. John Griffith has written an able paper contending that it may be a SEQUEL of gonorrhœa, meaning thereby "a late manifestation of constitutional gonorrhœa after the complete disappearance of the initial inflammation." He supports his contention by a series of twelve cases in which the iritis appeared at a dis-

ance varying from five to fifteen years after the original gonorrhœa. Syphilis could be excluded in all but three, and even in these the repeated recurrences could not be explained by syphilis, as relapsing iritis is a mark of distinction between the rheumatic and syphilitic affection. Though many might ascribe these cases to rheumatism the writer affirmed that "the more I see of rheumatic iritis the more sceptical I become of the real rheumatic nature of the affection" and asserted his belief that a great number of the cases of so called "rheumatic iritis" are gonorrhœal in origin. A suggestion was made that the cases might be due to gout. Although the paper was received with some scepticism it is one worthy of remembrance and of further enquiry.

An instructive case of septicæmic meningitis associated with panophthalmitis in BOTH eyes is reported. Such an occurrence is very rare. The loss of ONE eye from such a cause is unfortunately an occasional occurrence, but for both eyes to be affected is almost unique. In this case there was no doubt that the uveitis was secondary in point of time to the meningitis, for there had been pain in the head and sickness long before the eyes were obviously affected, but it was not possible to decide whether the panophthalmitis was due to direct infection from the meninges or from the blood. Mr. E. Nettleship, the well-known ophthalmic surgeon of St. Thomas Hospital and Moorfields, has a paper on the appearance of opaque nerve fibres in the retina. In each case the condition was congenital. This is usually the case with opaque nerve fibres, but the patch usually involves the disc. Lately several cases have been published of patches of opaque nerve fibres in healthy eyes lying in the retina only and not involving the disc. An additional interest is lent to the paper by the fact that in the first of the two cases, a case of cerebral tumour, the patch of opaque fibres, DISAPPEARED as the

optic atrophy became pronounced. Two other cases of this phenomenon are on record, one by Mr. Adams Frost, in which the opaque patch disappeared as the result of optic atrophy following glaucoma and a case referred to by Wagenmann (*Archiv für Ophth.* Bd., xl., 1894) in which the same result occurred after optic atrophy due to tabes. Mr. Nettleship adds the following important note: "The disappearance of congenitally opaque retinal nerve-fibres in atrophy of the optic nerve was, I find, proved experimentally by Pflüger in 1880." In examining the eyes of rabbits in which he had many months before ligatured the optico-ciliary bundle he observed, in addition to optic atrophy and other changes, that the bands of retinal opaque fibres, normal in the rabbit, had completely disappeared. (*Trans. Sixth Internat. Oph. Congress, Milan, 1880, p. 48*).

Perhaps the most important paper in the book is one by Mr. Ogilvie on "One of the Results of Concussion of the Eye" ("holes" at the macula). The cases quoted belong to a special class in which certain definite lesions, mainly confined to the retina in the region of the macula, are found. The injury is always the result of violent concussion of the eye with some blunt instrument, such as a cricket ball. "The retinal lesion in a typical case is very distinctive and remarkable. Briefly the characteristics are these: at the macula there is the appearance of a punched-out hole, generally circular or oval in shape, corresponding closely in size to the macula. This area is depressed below the level of the surrounding retina, is deep red in colour and is quite sharply margined by clean cut edges." Fifteen cases are referred to due to various injuries. One was injured by a poker, three by a stone, two by a cricket ball, two by pieces of wood, one by a tennis ball, one by a small bullet from a catapult, one by bullet wound of the head, one by a blank cartridge, one by the cork out of a

ginger-beer bottle, one by the twig of a tree, and in one the source of the injury is not stated. In these cases the appearance is very typical, the "hole is so clean cut that it looks as if it had been cut out with a trephine;" it is sharply defined and surrounded by a frame of sodden whitish looking retina. The deep red colour of the "hole" is probably due to "the atrophy and consequent removal of the overlying layer of the retina allowing the pigment layer and choroid to be seen with unusual clearness. Further the pigment in the retinal epithelium is particularly plentiful and dark and the choroidal capillary circulation extra abundant at the macula in the normal eye." The explanation of all these appearances is largely, at present, a matter of conjecture, but not therefore wholly impossible and certainly is of the highest interest. The production of the "hole" can be fairly well explained by ordinary physical laws and the anatomy of the macula region. . . . "A physicist describing the eye, and disregarding its optical properties, might perhaps speak of it as an elastic sphere containing fluid like a tennis ball full of water; he would further say that any force striking such a body would be transmitted equally in all directions from the point struck. Let that point be exactly the centre of the front of the sphere, then the vibration waves will be transmitted through the solid coats backwards to a point corresponding at the back of the sphere, where the waves would meet and the maximum stress would be felt, and this effect would be further intensified by the secondary waves set up in the included fluid at this point."

"The retina is attached at the O. D. and the ora serrata; excepting at these two points it can be readily lifted off the underlying pigment epithelium. The macula lies at the posterior pole of the eye; its position consequently renders it especially liable to suffer from concussion injuries applied to the cornea.

Further, this region is by far the weakest part of the retina for several reasons.

The edge of the macula represents the thickest part of the retina; from the edge the retina dips sharply down to the bottom of the fovea, the thinnest part of the retina; the whole cup being formed at the expense of the retina. The largest retinal blood vessels are absent in this region; while the nerve-fibres, sweeping outwards from the disc, pass above and below the macula, thus rendering an already weak spot weaker still." In all these cases the floor of the "hole" was DEPRESSED, the average, confirmed by many independent observers, being 1.5 D. This difference between the edge and the floor can be accounted for on either of two theories, either (1) that the retina has come forward from œdema or other causes, 1.5 D., from the macula, or (2) that the surrounding retina has remained practically unaltered in level, while the intermacular retina has sunk to the bottom of the fovea, that is, to the thinnest part of the retina.

Mr. Ogilvie adopts the latter theory and explains the process by which it comes about as follows: "The forces starting from the anterior pole of the eye and spreading from that point in all directions, meet at the posterior pole, that is, the region of the macula, and there the waves break and the stress of the injury is felt; this is, of course, the old theory of *contre coup*, and though this theory has now been discarded as an explanation of 'fractured base,' it is perfectly fitted to explain such a result in an elastic fluid-containing sphere such as the eye.

The breaking force, then, may be supposed to fracture the retina, probably as a many starred fracture running radially down from the edge of the macula in every direction towards the fovea, or possibly in some cases it actually forms an annular fracture just internal to the thickened edge of the macula, with a true solution of

continuity between the nerve-fibres and the ultimate retinal elements.

Portions of the disintegrated retina remain attached to the floor, but the bulk of the fractured membrane, by reason of its own elasticity, curls up and becomes infolded under the edge, and we then see the floor on a level plane, consisting of degenerated retinal remains lying directly upon the unaltered choroid and bounded by the steep edges of what was the macular margin."

Most of these cases have no detachment of the retina, but a few have, and in these the detachment is flat, shallow, extends over the whole fundus, shows no tendency to increase, even after the lapse of many years, and is unattended with those degenerative changes that one would expect to find in cases of long standing detachment of the retina. The following conclusions are important:—

"1. That, whatever its nature, the lesion is fairly definite and constant in shape, size, and appearance, that is, is confined mainly to the central region and that the rest of the eye escapes with comparatively little damage.

2. That the appearance found is the immediate and direct result of the injury and not the end of a series of changes taking months or years to accomplish.

3. That the appearance remains unaltered probably throughout life, but certainly for many years.

4. That the general disturbance of the eye in these cases is often slight, so that the patient, in hospital practice at any rate, rarely comes for treatment for some months after the injury, although the sight has been irretrievably damaged and that often the damage is discovered accidentally many years after, when the blow which caused it has been entirely forgotten.

5. Lastly, that the appearance is found as a result of the concussion injuries of the eye, and I believe, FROM NO OTHER CAUSE. IF ON EXAMINING AN EYE THE OPHTHALMOSCOPE

REVEALS THE VERY TYPICAL LESION WE MAY ASSUME A CONCLUSION INJURY OF SOME KIND, THOUGH NO SUCH HISTORY BE FORTHCOMING."

#### OPERATIONS DURING SECONDARY SYPHILIS.

In his Archives of Surgery Mr. Hutchinson discusses the question of operating during syphilis and comes to the conclusion that neither this disease nor mercurial treatment for its cure are a bar to operation. He narrates two cases, one a laparotomy for appendicitis, undertaken during these conditions, and in both cases the patient did well. He thinks that many cases of syphilitic sore throat in patients who have had chronic or acute tonsillitis before, would benefit by prompt excision.

#### APPENDICITIS.

In the *Lancet* for last August appears an article on the safest method of removing the appendix which extols that practised by Mons. Doyen. "It is simple and rapid; the appendix is not opened, so infection of bowel contents is not possible, and in the event of infection or suppuration the pus must discharge into the lumen of the bowel. The little mesentery of the appendix is first ligatured with a small silk ligature to free the appendix laterally. Then (1) the base of the appendix is gently crushed with Doyen's small clamp. Almost any forceps suffices for this purpose if strong enough and broad enough to completely occlude the appendix for a breadth of, say quarter in.; (2) a fine silk ligature is thrown round the base of the appendix in the furrow left by the clamp; (3) the appendix is removed by the thermocautery close to the ligature; (4) a purse suture is made in the serous covering of the cæcum close round the base of the appendix (as the purse stitch is drawn tight the little stump is invaginated, so that all is completely closed), and (5) for safety a second

fine silk purse stitch is made and the little pucker of the first stitch is similarly invaginated and the ligature is gently tightened. The result technically is perfect, and this is the most aseptic method of removing the appendix." It has recently been shown by Dr. Moizard (*Journ. des Practiciens*) that certain cases of tuberculous peritonitis commence with all the symptoms of, and run a course similar to, acute appendicitis. In the case quoted, which began with the classical symptoms of pain in the iliac fossa, vomiting, high temperature, and tenderness over McBurney's point, operation disclosed the fact that the whole condition was due to tuberculois; the peritoneum contained yellow fluid and numerous tubercular granulations, the anterior surface of the cæcum was covered with them and the appendix likewise. The lumen of the appendix was not occluded, and contained faecal matter.

Rotter points out (*Deutsche Med. Woch.*) that abscesses in Douglas' pouch are by no means rare in appendicitis; in fact formed some thirty per cent of his cases. In such a position they are particularly liable to encapsulation by matting together of the intestines. "Owing to their position in the true pelvis they cannot be felt through the abdominal wall if small, if large they can be felt, mostly to the right, above the symphysis pubis, or either of Poupart's ligaments. Occasionally they may approach the level of the umbilicus." He insists upon the necessity of a rectal examination in every case of appendicitis or peritonitis. "If it is omitted most abscesses in the recto-uterine or rectovesical pouch will be overlooked." The treatment recommended is evacuation per rectum. There is an important article by Dr. Jean Roger, in *La Presse Medicale*, on Inflammation of the Psoas Muscle dependent on Appendicitis. He is of opinion, as inflammation of the muscle occurs on the right side in seventy per cent of the cases, that the MOST FREQUENT

CAUSE OF INFLAMMATION OF THAT MUSCLE IS APPENDICITIS. "Infection of the muscle takes place by continuity—through the intervening veins or lymphatics—or by continuity as by a direct rent in the fascia. In the former cases to the ordinary symptoms of appendicitis is added that of flexion of the thigh and rotation, either inwards or outwards, and the pus may pass down the psoas and iliacus to the crural ring. When appendicitis sets up inflammation of the muscle by

continuity the symptoms of each condition progress side by side. The appendix being in these cases always behind the cæcum does not give rise to peritonitis, so that in spite of the special situation of the pain the characteristic symptoms are wanting and the evidence of inflammation of the psoas tends to obscure them. The *rapid* invasion of the muscle is, however, characteristic of infection from the appendix, but the diagnosis from an ordinary psoas abscess is difficult."

## Gynecology and Obstetrics.

Under the charge of Elizabeth Reifsnnyder, M.D.

### UTERINE HEMORRHAGE.

When the Medical Missionary Association of the greater city of New York met February 11th, of so great importance did they consider "the cause and significance of uterine hemorrhage" that "an entire evening was devoted to a discussion of this subject," so says the *New York Medical Record* of February 23rd, and the topics discussed were as follows: Menorrhagia in young girls, metrorrhagia due to neoplasms, metrorrhagia due to inflammatory processes within the pelvis, the causes and significance of obstetric hemorrhages, uterine hemorrhages due to organic diseases in other organs and to constitutional disturbances. Dr. W. Gill Wylie in his remarks on menorrhagia in young girls said that where the general health of a young girl was badly affected *no* menstruation was normal, and that she should not be submitted to the drain of menstruation.

In a weak, anæmic, imperfectly developed girl, menstruation, if normal, was really hemorrhage, so that it was often necessary to stop a normal flow. Also, if a woman was weak and anæmic she should not menstruate. Small fibroid tumors, so long as they did not impinge on the endometrium, might exist for a long time

without causing hemorrhage. Dr. W. Gill Wylie in his discussion of menorrhagia due to neoplasms considered fibroids, and under twenty years of age, sarcoma a frequent cause; but carcinoma and epithelioma confined to older women. Neoplasms after forty most important. If a woman menstruated after fifty, it means there was present a fibroid, a polypus or cancer. If she menstruated after fifty-two, cancer should be suspected.

In treating metrorrhagia due to inflammatory processes within the pelvis, Dr. Edwin B. Cregin said three factors must be considered—the endometrium, the muscular wall of the uterus, the blood-vessels of the uterus.

For the usual origin of metrorrhagia we must look to a chronic endometritis and its causes. The treatment depending on the cause, curettage followed by endeavors to relieve the chronic congestion, the best treatment. The causes and significance of the obstetric hemorrhages, Dr. J. Clifton Edgar discussed. The more important during the forty weeks of pregnancy being: simple abortion or miscarriage, placenta previa, premature separation of a normally situated placenta, accidental hemorrhage, ectopic gestation, traumatic or spontaneous rupture of the uterus, menstruation occurring during gesta-

tion. Ante-partum hemorrhages might also be due to other causes, such as the hyperemia of exanthemata, sarcoma or polypus of the uterine body, etc.

As to post partum hemorrhages, the causes were general and local. General causes: mental emotions, as anger, fright, fear, disturbance of the general circulation, or from abuse of stimulants, the excessive use of *chloroform*, certain conditions of the heart and liver that interfered with the return circulation, certain blood conditions, as extreme malarial poisoning, albuminuria, puerperal sepsis, and such infectious diseases.

Among local causes were retained blood clots, portions of placenta or membrane, a secondary placenta, a distended bladder or rectum, retroflexion, inversion, fibroid or polypoid tumors, cervical laceration, malignant disease of the uterus, simple subinvolution, etc. Uterine hemorrhages due to organic diseases in other organs and to constitutional disturbances were dwelt upon by Dr. Andrew H. Smith. Abdominal tumors by pressing on abdominal veins, syphilis, anæmia, purpura, hemorrhagia, scrofula and scurvy all might cause hemorrhage. The eruptive diseases were often accompanied by excessive menstruation.

Dr. Tull believed uterine hemorrhage to be characteristic of nothing save extra-uterine pregnancy. He had never seen a case of this in which hemorrhage did not exist, hence should be considered a strong factor in diagnosis.

#### TREATMENT OF PUERPERAL ECLAMPSIA.

In the *British Medical Journal* of January 19th, Dr. R. P. Ranken Lyle writes as follows:—

There are three great principles in the treatment of this condition:—

1. The purifying of the blood.
2. To control convulsions.
3. The emptying of the uterus.

Diuretic infusion is a valuable addition to the usual treatment adopted for purifying the blood (purgatives, enemata, diaphoretics, vapor, bath, diuretics, etc.) but it has no immediate effect in controlling convulsions, nor has it any effect on the action of the uterine muscle.

In order to control convulsions in eclampsia, it is necessary to allay the irritability of the cerebro-spinal system. *Morphine*, *chloral*, *veratrum viride*, and *chloroform*, have all been used. *Chloroform* is undoubtedly bad, as its action is very temporary and very depressing to the patient, the action of *chloral* and *veratrum viride* is more lasting, but they are both cardiac depressants; while *morphine*, judiciously given, is quite free from any disadvantage and has the following advantages:—

1. It controls the convulsions by allaying the irritability of the cerebro-spinal system.
2. It prevents excess of waste product being thrown into the blood.
3. It does not weaken the patient.
4. It does not injure the child.
5. It has no effect on the kidney.
6. When the patient is under its influence labour often commences, and quickly terminates without causing more convulsions.

Dr. Rankin further states as regards the third great principle—the emptying of the uterus—that as soon as the patient enters the second stage of labour, she should be delivered by forceps, but any mechanical interference (induction of premature labour, version, etc.) during the first stage of labour, is extremely unsuccessful treatment; all maternal deaths having occurred under this heading, as shown by statistics. Should labour not supervene under the *morphine* the *morphine* will generally control the convulsions for the time being, and the patient, if carefully treated, will go on to full term without any recurrence of the symptoms of eclampsia.

Dr. Robert Jardine in the *British Medical Journal* of March 2nd, warm-

ly advocates diuretic infusion, because when fits are occurring, diureses cannot be established quickly enough in the ordinary way. Absorption by the stomach is almost in abeyance, and even if it were normal, a good many hours would have to elapse before action could be set up. Beside the diuretic effect, we get a dilution of the poison and a stimulation of the patient.

Dr. Jardine gives some statistics collected by Dr. Munro Kerr, of Glasgow, which are as follows: "The death rate among the cases treated by *chloral*, *chloroform*, and *bromide veratrum viride* or *morphine*, etc.," was forty-seven per cent. These were cases in the Glasgow Maternity Hospital during a period of fifteen years. "The reason of this exceptionally high death rate was because many cases were brought in after they had been convulsed for many hours." Since the saline infusion had been added to their treatment the death rate had fallen to seventeen per cent.

#### AXIS-TRACTION FORCEPS.

In the *New York Medical Journal* of March 2nd Dr. Simon Marx has a lengthy and most interesting article on the above, from which the following is taken:—

"With the ordinary forceps in action we must, of necessity, influence moulding, rotation, and descent of the head, through our purchase upon the handles, by traction and pressure on the head. This is not so when the Tarnier instrument is used. Here the handles of the forceps are left alone. They are simply used to act as an index as to the position of the head and as a guide to the direction in which we are supposed to make traction. Our extraction force is directly applied to the cross-bar of the traction rods, which is used to drag the head uninfluenced through the pelvic canal. Rotation can then occur in due time, as it does in the great majority of cases (occipitoposterior cases). There-

fore, the great advantage in using axis-traction is the free mobility of the forceps when applied to the head. With the ordinary forceps, the mechanism, as compared with the shape of the pelvis, seldom comes into operation; in fact, the mechanism is often interfered with unconsciously, so as to materially disturb the descent and evolution of the head, possibly checking or influencing what would otherwise be a normal position of the foetal head; while, with the Tarnier forceps, the head, with the body of the instrument, obtains greater freedom of mobility.

A further greater advantage applies to the child, and is of the utmost importance, immediate and remote, as to life and health. The ordinary compression force, as applied to the foetal skull by the forceps, is variously estimated at about twenty-five pounds. Further, twice this compression force, or fifty pounds, represents the traction power. In a very difficult delivery, where enormous strength is exercised to deliver, this force is materially increased to a power one shudders to estimate in pound weight. Every pound of increased traction means half a pound of compression force. In other words, with the ordinary forceps, the more powerful the extraction force applied, the greater the compression exercised upon the foetal skull, no matter how carefully done; and no matter what amount of resistance is placed between the handles at any point, to lessen the compression power, too much space between the handles absolutely insures a loose or unsteady application of the blades, and consequently far greater disposition to slipping. This is entirely and absolutely overcome in the axis-traction instruments, where practically no pressure is brought to bear upon the head, since all the extraction force is applied directly to and from the cross-rods.

The last, and to my mind the greatest, advantage possessed by the instrument is its saving of muscle and

strength on the part of the operator. A case that has proved to be futile of success with the ordinary forceps will yield with the axis-traction instrument in a remarkable and rapid fashion. With a minimum amount of force expended and none lost, it often seems marvellous with what ease delivery is effected in an apparently difficult case. Further, the severest trial the average physician has, is to determine in what axis he has to exercise traction in order to deliver the woman successfully. The tendency is generally to pull too far forward and upward. With the ordinary instrument there is absolutely no trustworthy guide as to traction in the proper axis. Consequently, there is not only greater danger to mother and child, but failure will almost invariably follow as to successful delivery. This is entirely overcome with the axis-traction forceps. Here, the handles of the forceps are an extremely useful guide as to the position of the head, and, consequently, an ever guiding factor, a compass, as it were, as to the direction in which the force of the extraction is to be applied. As to the indications for its use, they do not differ in any way from those of the ordinary forceps, generally speaking, as with it the head must be engaged, or, if it is not engaged, there must be a contra-indication to the performance of a version or other conservative operation; again, the position and presentation should be normal, or relatively so, or, if abnormal, readily correctible by hand or instrument, and the maternal parts in a condition

to allow of the passage of the child without endangering their integrity."

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If the following letter does not denote Gynecological Progress amongst Chinese laymen, what does it denote? It was received not long since and is quoted in full:—

"This case is began on the 16th inst, It is hurted by some thing to the Uterus and therefore the right side of the uterus is feeling pain and bleeding, It was stopped in a few hours by itself and feeling a very little pain on the following night at both sides of the uterus; and have pain on the right side in the following day. Much more pains was felt on the 18th, on the night, on account of no medecine can be got at night time 2 pipes of Opium was obliged given and So the pain was stopped, and no pains was felt on the 19th but only can neither eat nor Sleep; and vomit, all the food that has been taken all vomited, and so the Appetite is entirely lost. Yet the pain was stopped for a while on the morning of the 21st and feeling Great pain in the afternoon again and so cried for the whole night, and some pipes of Opium was obliged to give again on the morning of 22nd to s'p her pains.

It was supposed that her uterus may out of position as she has the sick of vomite so frequently, and now it was hurted and so It was obliged to send her to Your Hospital, Hoping that You will surely to get her uterus putted into the right position and being recovered from their case and oblige."





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## Editorial.

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### MEDICAL EDUCATION FOR THE CHINESE.

Much has already been written upon this subject in the columns of the JOURNAL, but as it is a many sided subject, it cannot be that the last word has already been spoken. Added experience also gives us somewhat different views on any subject, and it is to be hoped that there is a proper receptive attitude that will insure the correction of wrong impressions and bases of action. It is contrary to the scientific spirit to refuse to accept well-worked out conclusions, and although these may completely upset all of one's preconceived ideas upon the subject, he is indeed stubborn who is unwilling to change his view point. We live to learn, to progress in knowledge, and we have failed to appreciate the true end of mental acquirement, if this knowledge does not make us both progressive and aggressive.

The question of medical education for the Chinese may be viewed from two principal standpoints: that of an aid to the evangelization of China, and that of humanitarianism in providing a means for the relief of much of the suffering of this disease-cursed people. We scarcely know which of these should elicit the greater amount of interest on the part of the missionary body at large, while to the medical missionary no doubt they are, as they should be, of equal interest. It is not right to say that one of these deals with the soul while the other only has to do with the body. Soul and body are not thus easily separated. He who said "thy sins are forgiven thee," also said "arise, take up thy bed and walk." *Mens sana in corpore sano* is more than a well sounding phrase from a dead language. It expresses a scientific truth that is well-nigh axiomatic. The sick man, as the doctor usually sees him, is a peevish, irritable, pessimistic individual, with but little hope or care for

the things of this world outside of himself, and usually only the same selfish anxiety in regard to the world to come. The cheerful invalid, that is a benediction to all around him, is found most frequently in Sunday school library books, and but rarely in real life. In treating the diseased body we not only are enabled thereby to have an avenue to the soul, but we are doing the works of Him whose heart was wrung with the spectacle of human suffering, and who spent so large a part of His short life in its relief.

Native medical evangelists have been employed by some missions in some parts of China, notably in Fukien province. These are expected to go about in circuits "preaching and healing." It would be interesting and profitable to the missionary body to know what success has been attained by this method, as well as to know something of the details of the plan. It is to be hoped that some one among those who have used these medical evangelists will write an article on the subject, either for the *JOURNAL* or for the *Recorder*. We see no reason why, with consecrated and well-trained men, this method should not secure large results. But such men should be well trained medically, that is to say, they should have had as good a course in medicine as if they were engaged in private practice. We are unalterably opposed to any evangelist, whether foreign or native, attempting to practice medicine, unless he has taken as thorough a course as possible. For the training of these, therefore, well-organized schools are necessary.

The training of the hospital assistant is of less importance. For, so long as he remains an assistant, he will be under the direction of the physician in charge, and his responsibility and need for accurate knowledge to meet emergencies is reduced to a minimum. But, do we not long for the day when native physicians may be made house-physicians and house-surgeons, and we may have them upon the visiting and consulting staffs of our hospitals? If such were now the case how much more time the medical missionary would have for the work he desires to do, but which now he has but little time for! These cannot be secured until properly equipped medical schools are provided for their training.

Something is to be said at present for each hospital having its own corps of medical students, who in return for their training may act as unpaid dispensers and dressers. But in our experience such assistance has not been an unmixed blessing. If too much left to themselves in the discharge of these duties, they are apt to become careless, or even reckless in their work, not yet having had sufficient training to make them appreciate the dangers and responsibilities of such a position.

Otherwise, the physician must devote himself to supervising them in all of their work, which is a serious drain on his already overcrowded time. It is sincerely to be hoped that the time will soon come when the necessity for practising such doubtful economies in the administration of our hospitals will be unnecessary. So, while for the present it may be necessary for each mission hospital to have a few of such student helpers, one should not rest satisfied with this state of things. A well-trained assistant, if faithful, earns his salary in whatever position he may be placed; and not the least of the advantages to be gained through him is the release of the physician-in-charge from anxiety in regard to his duties.

The healing of the sick, surgical relief, and private and public hygiene are the humanitarian works peculiar to the medical profession. All of these are worthy of the sincerest effort of the physician, and especially of the medical missionary. There is no way in which this cause can be pushed forward more rapidly than in training natives for this work. The missionary physician, with his hospitals and dispensaries, does what he can in the accomplishing of these good deeds. But all the hospitals and dispensaries that the Christian church is ever likely to plant in China will not meet even a small fraction of the needs in this direction. So there is no better way than that the profession should multiply itself as rapidly as possible. True, we propose to train these young men for a profession in which it is possible for them to secure a good income or to receive a large salary. But why allow this bogey to alarm us? Is it not infinitely better, both for the afflicted and for the credit of Christian civilization, to have a well-trained, scientific physician practicing in a place, than to have the ordinary Chinese "doctor" with his barbarous methods? And if this physician is a Christian, a consecrated layman, entirely aside from such direct Christian work as he may be able to do, the object lesson of his life as a self-supporting, self-respecting, cultured Christian gentleman will have an incalculably good influence on all those around him. This is entirely aside from the humanitarian side of his work. And if he should not be a Christian, judicious management on the part of the missionary and the leaders of the local church will make of him a sympathising friend, whose influence will be for good. His training in a Christian school cannot but have elevated him and made him more sympathetic with the principles and spirit of Christianity.

The establishing of good, workable schools in centers where there already are scientific schools and hospitals is possible. We urge the utilization of scientific schools and their laboratories for this purpose.

Medical students should have had the best possible preliminary courses in biology (including animal and plant physiology and at least an elementary course in comparative anatomy), physics and chemistry. These it is possible to get in a good scientific school. At least two years of the regular medical course should be spent in class and laboratory work, before any clinical work is taken. This time also may be better spent in the school, apart from the hospital.

We would not trouble ourselves about certificates and qualifications. Schools authorized to grant degrees may do so if they like, while others will only grant a certificate of study. The value of either to the student will depend upon the thoroughness of the work done and the reputation of the school.

G. A. S.

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#### EVANGELISTIC WORK IN HOSPITALS.

In reading over the reports of hospitals as received by the JOURNAL one cannot but be gratified at the prominent place which is assigned in most of them to the evangelistic work. One's heart is warmed as he reads the touching story of the first patient received in the new Soochow hospital by Dr. Cattell, and realises the spirit of consecration with which that institution was dedicated to its noble purpose of healing the sick and leading its patients to a knowledge of our beloved Lord. We rejoice also with Dr. Gillison in the nineteen who during last year came out as Christians through the influence of the medical work in the Hankow hospital; and are much interested in Mrs. Smyth's account of the women in the Ningpo hospital. We are proud of the way in which the medical assistants have stuck to their work during the past year and of the evidence some of them have given that they have truly the spirit of Christ in them as in the case of Dr. Swan's assistant in Canton. Yet with all this feeling of rejoicing and of pride in what is being accomplished in an evangelistic way in our China hospitals there comes over one too a feeling of sadness that more is not achieved in this direction. The writer confesses to great disappointment as he looks back over his years in China and can think of so few who have been led to Christ through the influence of his medical work, and no doubt many other physicians in China feel much the same way. That good has been done, that suffering has been relieved and prejudice broken down, there can be no question, but as to direct results in leading souls to know "the only true God and Jesus Christ whom he has sent," there is room for much questioning of ourselves as to the reasons why so few results have been shown in some of our hospitals.

This is our prime object in being here in China, and there is every reason for us to make the evangelistic side of our work one which shall occupy our most serious attention and which will yield as good fruits as the purely medical work. One serious difficulty in some of our hospitals seems to be the lack of a really good hospital evangelist to instruct those of our patients who are willing to learn and to spend his time in quiet association with the patients from day to day. Without such a man the evangelistic work is greatly handicapped, for it is impossible for the physician himself to give the requisite amount of time to instructing ordinary country patients, some of whom are extremely stupid, in the essentials of Christian doctrine, an understanding of which seems necessary in many cases in order to get a man to comprehend the simplest truths of the fatherhood of God and the love of Christ. We should try to get our clerical associates to realise that no man is too good to take the position of hospital evangelist, and then having secured a good man should give him all the support in our power through practical sympathy and loving cooperation in his work.

Let us strive to keep our hearts warm in this matter, and living a life of close communion from day to day with our Heavenly Father, and learning more and more to follow in the footsteps of his dear Son, let us make it our most serious purpose to lead souls into the light, not merely by formal talking, but still more by the sweetness and kindness of our daily lives.

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#### TRAINING OF NATIVE WOMEN IN MIDWIFERY.

We would call the attention of the readers of the JOURNAL to the work which is being done in the Ningpo hospital by Dr. Smyth in the training of native women in the theory and practice of midwifery. A brief extract from Dr. Smyth's report will be found in the review of Hospital Reports on another page. It would seem that this is a kind of work which might be much more largely done in many of our mission hospitals than it is, especially in those devoted to the care of women. Even where it is impossible to carry on the regular training of medical students, that is put them through a long course of study with a view to fitting them for the practice of all branches of medicine, would it not be possible to give a goodly number of women sufficient training in midwifery to enable them to be of immense service to their fellow-sufferers during the pangs of child-birth? It seems to us an eminently feasible matter and one which it behoves the older men among us, and all our women physicians of any experience, to think about and if

possible to act upon. There are no doubt scores of women in connection with our mission stations who, while unfitted for a long course of medical study, could be readily trained to act as most efficient midwives. Even those who are unable to read, might yet be instructed orally and by demonstrations on obstretic models, so that they would understand the mechanism of labor and be able to render very efficient assistance to women at their times of confinement. One great drawback to the training of young native women for the practice of medicine is that they invariably marry soon after finishing their course of study, and the care of their families interferes very much with regular practice afterwards. Now in the teaching of midwifery these objections would not hold nearly so strongly, nor would it be necessary to confine our training to unmarried women, as is almost of necessity the case in fitting for the regular practice of medicine, where a long course of several years must be gone through with. Women of considerable age might easily spare a few weeks at a time, or some months, in which to be taught the essentials of midwifery and then returning for a further course within a year or two, and after considerable practical experience, might be given certificates which would give them a certain standing at least among Christians. The principal danger to be avoided in such teaching will no doubt be the tendency of the pupils to think that they understand the whole field of medicine and thus to degenerate into quacks, who will bring disgrace on all foreign practice. This, however, is a danger we shall have to be willing to face for the sake of doing the greatest good to the greatest number. It is hoped that in the next number of the JOURNAL we may have an article from Dr. Smyth giving more fully his methods and experience in this kind of work.

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#### LOCAL BRANCHES OF THE CHINA MEDICAL MISSIONARY ASSOCIATION.

In the last number of the JOURNAL R. T. B. gave some account editorially of the Hankow Branch of the C. M. M. A., and in closing urged the formation of like societies in other places. The editor would heartily commend this advice to the careful consideration of members of the Association in any place where there are as many as three or four physicians located. From personal experience in attending last winter the meetings of the Chefoo and Shanghai Branches he can testify to the personal pleasure and profit derived from such meetings for the presentation of papers and discussion thereupon. The *esprit de corps* developed in such meetings goes far toward relieving the

painful feeling of isolation experienced by many workers when for months or years at a time they are shut off from association with fellow-physicians, and the interchange of ideas does much toward stirring one up to keep abreast of the advances in medicine and surgery.

Now that the summer is again upon us and some of our number will no doubt be spending part of the heated term at various resorts, such as Kuling, Sharp Peak, Chefoo and other places let us hope that local societies will be organized for the summer season at these various points and interesting papers prepared not only for reading at such meetings but also for publication in the JOURNAL. It seems especially desirable that such large centers as Canton, Peking, Soochow and Nanking should have permanent branches established in them, yet so far as appears in the pages of the JOURNAL for the past two years there is no evidence that these cities have any such associations. If such local societies were formed at the large centers and at the summer resorts, and the secretaries would be kind enough to send to the JOURNAL the papers as read, there would be no trouble in keeping the JOURNAL running. In fact there would probably be little difficulty in issuing it once in two months instead of once a quarter, which it is to be hoped may some time take place, so that we may have a more frequent means of communication between the scattered centers of medical work in this vast empire.

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The readers of the JOURNAL will be glad to learn that Dr. Elizabeth Reifsnnyder has consented to take charge of the department of Gynecology and Obstetrics in "Medical Progress." With her long experience in China, and her established reputation for careful work, we may hope to see this become one of the most interesting and profitable parts of the JOURNAL. The editor is indebted to Dr. R. Gifford Kilborn for help in this department in the April number. It is to be regretted that owing to the departure of Dr. Jellison for the United States we have not had any department of Eye Diseases in the JOURNAL for some months. Will not some one who is particularly interested in this specialty offer to undertake this department? An offer from some member of the Association to supply matter on Skin Diseases from number to number will also be much appreciated. These are two such important fields of work in China that it seems a pity to have their place left vacant in the pages of the JOURNAL. As all our readers can testify the plan of having each department of Medical Progress under the charge of some one individual has resulted in a marked improve-

ment in the quality of those pages, for which improvement we are indebted to Drs. Hodge, Booth, and Jellison. If now we can find two more men or women who will take charge of the two departments mentioned above, Medical Progress should be in good shape.

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It is to be hoped that the members of the Association will not forget the pressing need of funds for carrying on the work of the Nomenclature Committee. Not only is money needed for the expenses of the committee but also for the printing of the lists already finished and of those which will be ready after the next meeting of the committee.

It ought to be possible before the next meeting to have enough funds in hand to meet all the expenses already incurred and to provide for those still to come. If this is not done it will have a depressing effect upon the members of the committee, who, while they are glad to do the work for which they were appointed by the Association, do not feel quite prepared, in addition, to pay more than half the extra expense involved in the necessary meeting together for consultation. The editor is happy to acknowledge the receipt of ten dollars from Dr. Charles Lewis for the above purpose, which he has turned over to Dr. Stuart, Secretary and Treasurer of the Association.

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The editor would beg to call attention to the fact that he has returned to his old station, Chi-nan-fu, which is ten days by overland post from Chefoo and two weeks from Shanghai, thereby necessitating a month's delay in getting material from Shanghai up and back again. He will therefore have to beg contributors to let him have their articles in good time to insure insertion in the following issue. Original Communications should be in his hands two months before date of publication, and Evangelistic articles and Correspondence at least a month. It is very desirable that the JOURNAL should appear as nearly on time as possible, certainly within the first ten days of the month in which it is due; but this can only be accomplished by members of the Association sending in their communications promptly.

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One of the brightest and most interesting exchanges received by the JOURNAL is "Medical Missions at Home and Abroad," published in London at the extremely low price of one penny a copy, and edited by Dr. James Maxwell, who is, if we are rightly informed, the father of Dr. J. Preston Maxwell, of the English Presbyterian Mission in Chang-poo, Kwangtung.



## Hospital Reports.

**Canton Hospital,** this old-established hospital, under the care

of Dr. J. M. Swan, records the gratitude of those in charge for the fact that "while many hospitals and dispensaries have been closed and in some instances entirely destroyed by violence" they have been permitted to continue at their work as usual throughout the year 1900. Improvements in the hospital property continue to be made from year to year; the latest being the purchase of some shops adjoining the hospital which has permitted the removal of kitchens and other out-buildings to that location and the making of a lawn where these buildings formerly stood; the erection of a pavilion platform over the roof of one of the wards, the hope for the future being that it may be roofed over and used for the treatment of consumptive patients, and the erection of a substantial iron and steel entrance to the hospital.

"During the year the entire working force of the hospital has changed, with the exception of one foreign physician. In February, Dr. Charles E. Reed was obliged to go to Macao on account of ill health, and as he failed to recover strength he and his family left for America in May. It was with much regret we parted with one whose skill and kindness of heart would soon have won the esteem of all with whom he came in contact. In May, Dr. Mary Fulton left Canton for a well-earned vacation and, owing to the political disturbances which arose in June, was unable to return. Several months later she resigned from her work as lady physician to the hospital where she had so efficiently labored for three years."

The statistics for the year are as follows:—

Out-patients (attendance)—men,  
16,347; women, 5,674      Total, 22,021

In-patients—men, 1,356; women,  
329      ...      ...      Total, 1,685  
Surgical operations—men, 1,366;  
women, 689      ...      Total, 2,055

Among the operations reported one notices, as usual, a large number of those for stone, some fifty in all, made up of twenty-seven *lithotomies*, fourteen *litholapaxies*, and five for *urethral calculi*.

Among operations on the eye are found forty-four for *cataract*, fourteen *iridectomies*, seventeen for *pterygium*, and ninety-seven for *entropium*.

There were forty-two excisions of *tumors* and *cysts*, ten *amputations*, three being of the arm or leg, but only fourteen for *fistula in ano*, and thirty-seven for *hemorrhoids*.

**Chang-poo Hospi-  
tal, English Pres.  
Mission.**

Dr. Maxwell  
has kindly sent  
the editor the  
following notes

and statistics of his last year's work:—  
The hospital has seventy beds and a class of eight medical students connected with it. During 1900 it was closed for three and a half months owing to the troubles in the north. During the remainder of the year there were treated the following patients:—

Hospital in-patients, 775, of whom 86 were women.  
Dispensary out-patients, 3,748, of whom 714 were women.  
Seen in homes, 180, of whom 52 were women.  
Total attendances, 9,500.

There were in all 999 operations, of which 621 were dental; *chloroform* having been administered 203 times.

The following were the principal operations:—

Amputations (finger 2, penis 1)	...	3
Appendicitis	...	2
Bone operations	...	6
Gynecological	...	4
Hernia—radical cure	...	2
Intra-abdominal abscess	...	2
Joint operations	...	5
Lithotomy	...	1

Liver abscess	...	...	...	1
Obstetric operations	...	...	...	6
Rectal (fistula 26, hemorrhoids 12)	...	...	...	40
Scrotal	...	...	...	17
Tracheotomy	...	...	...	2
Tumors	...	...	...	16
Eye (cataract 12, irid. 8, entrop. 35, pterygium 5, etc.)	...	...	...	83

**Hangchow Hospital,  
Church Missionary  
Society.**

This report, written by Dr. Kember (Dr. Main being at home on furlough), tells of the wards of the hospital having been closed for some months during the excitement of last year, though the out-patient department seems to have been carried on continuously, through the plucky determination of the native assistants to remain at their posts when it became necessary for the foreigners to leave the city for a time. The following extract from the report will serve to show what slight occurrences may give rise to serious disturbances in a time of excitement such as prevailed last year.

"Rumours and threats became worse, and patients were falling off very markedly in numbers, the Manchus entirely ceasing to attend. Some of our people on the place, who are heathen, went away; others, even Christians, had to go home. Patients, even in the wards, stayed in fear and trembling, as was shown by the events of one night, which will stay in my mind for some time. Being summer time and a stifling night, all windows and doors were open. In the early morning hours a great noise of talking and excitement in the wards awoke us. Rushing over to the hospital I went at once to the front gate to see if it was open to outsiders. I ran into our assistant, Dr. Liu, who had rushed in also on hearing the commotion. Seeing the row was inside the hospital, we rushed into the wards, quieting and reassuring the patients who were all gathering their things to bolt out. Getting some sort of quietness, the cause of the whole thing was traced to a man, who awoke suddenly

in a kind of nightmare. His neighbour in the next bed got a fright and began to shout; the whole ward awoke, and some one said, "Boxers." The other wards awoke, and hence the row. I tell this incident to show at what tension we were living, and especially the Chinese, and how a very simple thing starts a panic. If the matter had not been promptly stopped we should have soon had a general panic."

**NUMBER OF PATIENTS TREATED  
DURING 1900.**

Out-patients (registered only on first visit)	...	male	5,238	
Out-patients (registered only on first visit)	...	female	3,872	9,110
Out-patients, T'ai-chow dispensary	...	...	1,931	
Out-patients, itinerating	...	...	400	2,331
In-patients	...	male	446	
"	...	female	81	527
Patients visited in their homes	...	...	137	
" seen in the country	...	...	14	
Visits paid to foreigners and natives at their homes	...	...	450	
Accouchements, foreign and native	...	...	12	
Visits paid by out-patients to the dispensary	...	...	14,726	
Suicides	...	...	142	
Operations, major, under chloroform	...	...	174	
Operations, minor	...	...	967	

**London Mission  
Hospital,  
Hiau-kan.**

This report, which unfortunately has no name and no initials signed to it, so that it is impossible to give due credit to the writer, has all the freshness which attaches to a medical man's *first annual report*. It is replete with interest, not so much for the bare facts which it records, as for the glimpse which it gives of the way in which things strike a new-comer when first entering upon his work in this land of constant surprises. One cannot but sympathise with the writer in his keen sense of disappointment at sight of what he was expected to use as a hospital as he reads the following: "First we

visited the bungalow in which we were to live, and were very pleased with all its arrangements. Next came the hospital buildings. From what we had been told at home we imagined that there were a series of convenient buildings, equipped with bedsteads and other appliances. It was not an extravagant picture which we had formed, and we were utterly disappointed to find only a small, ill-smelling, inconvenient, native house for the male wards, without a single bedstead or any other furnishings except some Chinese chairs and tables and a dirty coverlet. In the small room used as a dispensary, instead of the well-stocked shelves which we had associated in our mind with the very existence of a hospital, there were only a few 'unknowable' and unsalable drugs. Passing on to what had been known as the women's hospital, we found that it was a 'lean-to' building, and had been converted into a cowshed during the absence of a medical man from the station. The memory of that day will never be forgotten. We were utterly downcast, and our hopes went down to zero."

Again one has a fellow-feeling for the newly-arrived doctor in his struggles between duty to the language and his duty as a physician, to whom pressing calls come for help.

"The very day after our arrival, a message was brought to us that a man was in the hospital buildings, nearly dead from opium poisoning. What could we do? Would it not have been criminal to have refused to do our utmost for him? Such, at any rate, was our view of the situation, and hence for several hours we fought with the narcotic and overcame it. The patient happened to be one of the 'gentry,' and it soon got noised abroad that the foreign doctor had come. The Christians, too, of the district had for months been looking forward to our arrival. Were their demands on our sympathy to be disregarded?"

The doctor having settled this question satisfactorily by answering it in the negative, seems to have devoted himself regularly to medical work, as shown by the following table of attendances at his dispensary. He also had charge of a leper asylum with some thirty inmates.

Attendances, as shown by the register, since the beginning of medical mission work in Hiau-kan:—

## OUT-PATIENTS.

Years ..	1894.	1895.	1896.	1897.	1898.	1899.	1900.
New cases ..	1,041	*	804	1,502	901		2,004
Return visits	941		491	912	463	†	6,531
Total visits	1,982	919	1,295	2,414	1,364		8,535

Total number of visits recorded to end of 1898 ... 7,974

Total number of visits recorded for year 1900 ... 8,535

## Operations.

Major—63.

Minor—Unrecorded, probably two or three hundred."

After a brief review of the course of events during the memorable months of disorder last year, Dr. Gillison in his report says:—

"Our chapels had to be closed for a few weeks, when things were at their worst, but Sunday services were conducted throughout, in our chapel close to the concession, and the dispensary, we are thankful to say, was kept open all through, and even when the strain was at its greatest, patients were still seen thrice a week in our consulting room. The native staff stuck nobly to their post; the head assistant, Mr. Tsou, when asked whether he thought it better to close or to remain open, chose the latter, saying that to show the white feather at such a time might have an injurious effect. We were sorry to have to leave him in the month of July, while engaged in con-

\* Visits not divided in register.

† No medical man at the station during year 1899.

veying by consular order, the ladies and children to the coast, but were glad to join him once more, in the first week of August, and to be with him and the others during that anxious and never-to-be-forgotten month.

Few patients were taken into the wards between the 7th of July and the middle of September, and indeed those that were already in were gradually discharged, it being felt to be unwise to keep strangers in such close contact with us foreigners at such a time.

The numbers treated were as follows:—

	1899.	1900.
Out-patients {	New cases 3,477	2,634
	Return visits 4,767	4,468
	<u>Total 8,244</u>	<u>7,102</u>
In-patients...	643	466
No. of times chloroform administered ...	289	235

There is thus a falling off under all heads, but nearly all the decrease took place during the second half of the year; indeed the in-patients admitted up till June 30th were more in number than those admitted for the corresponding period of 1899."

The report also speaks of the training of medical students; the teaching being done partly in English and partly in Chinese, but unfortunately no figures are given indicating the number of students under instruction. Among the operations performed we find the following:—

Amputation and excisions ...	17
Tumors removed ...	18
Fistula in ano and hemorrhoids ...	51
Circumcision ...	20

Of operations on the eye the following were the principal ones:—

Cataract ...	3
Entropium ...	30
Excision of eye ball ...	3
Pterygium ...	21

Dr. McCall assisted Dr. Gillison in the work.

**Margaret Hospital,  
L. M. S., Hankow.**

Dr. A. L. Cousins, in her report of this

hospital, gives the following statistics of the work there during 1900:—

New patients—women ...	525
„ children ...	225
Return visits ...	1,149
Visits to patients' homes ...	57
Midwifery ...	16
Hwang Teng Tsui ...	87
(IN 1899—2,437.)	2,059
In-patients ...	100
	<u>2,159</u>

#### KIA KIAI DISPENSARY.

New patients—women ...	169
„ children ...	92
Return visits ...	329
	<u>590</u>

Total patients seen ... 2,749

The doctor makes the following remarks apropos the remarkable readiness of the Chinese women to believe we have almost miraculous power, which will strike a responsive chord in the minds of all her readers who have had medical experience in China:—

"The primary object of a mission hospital is "to heal the sick and preach the Gospel." In striving to accomplish our object, however, we often produce impressions that are unexpected. It is undoubtedly true that hearing in our waiting rooms and chapels, of the miraculous healing power of Christ, and associating us in their minds with Him as His disciples, the heathen often credit us with powers we do not possess. This, at times, is very disconcerting. For instance, a woman has wax in her ears and by syringing them the wax is dislodged and the deaf is made to hear. Home goes the patient ready to accept your doctrine or anything else and a thorough believer in your power. In a few days she returns with a miscellaneous assortment of deaf, dumb, blind or maimed to be seen, and all expect an equally quick cure. If one, in such a case, says nothing can be done for the patient, the Orient mind immediately comes to the conclusion that it is because you won't and not because you can't help them and so goes away with a grudge against you and your work."

**Ningpo Hospital,** Dr. Smyth, in his report, says:

"Our Mission hospital was open daily throughout the year, and the attendances were unusually good, except during the crisis, when, as we naturally expected, the number decreased considerably. In July the in-patients dwindled down to eleven and the dispensary attendances to an average of twenty. But in spite of this diminution the total number of in-patients for the year is the largest we have ever had. As compared with last year, our statistics show a decrease of forty-two men and an increase of sixty-eight women and children. Spiritually, too, the year has been one of much encouragement; many of the patients were deeply interested, several gave us reason to feel confident of their sincere belief in Christ, and four ex-patients—two men and two women—were baptized.

Statistics for the year are as follows:—

**OUT-PATIENTS.**

Attendances at city dispensary ...	5,712
Seen in the country... ..	494
	<hr/>
	6,206

**IN-PATIENTS.**

Men ... ..	268
Women and children ... ..	172
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	440

**OPERATIONS.**

Major, under chloroform ... ..	92
Ophthalmic and minor surgery ...	213
	<hr/>
	305

Four patients died in hospital. The fatal maladies were: dysentery, intestinal obstruction, specific laryngitis, and heart disease."

Dr. Smyth still continues his valuable work in the training of women in midwifery, by which no doubt he saves through his pupils many lives in the course of the years and relieves an immense amount of suffering, for in no other specialty do the native women suffer so much from the ignorance of their own midwives and physicians as in midwifery. The doctor says: "Three courses of lectures were

delivered to the pupils, and ten of those women who attended two-thirds of the lectures have creditably passed the preliminary examination. They are now endeavoring to gain practical experience, and in a few months, we trust, they will present themselves for the final examination for certificates, which the Port Surgeon, Dr. Hickin, has kindly promised to conduct. It is a great pleasure to learn that two of these pupils are already being employed by their neighbors in a professional capacity."

The principal operations were as follows:—

Amputations of thigh (1) and leg (13)	14
Excision of hip ... ..	2
Operations for necrosis and caries ...	15
External urethrotomy ... ..	1
Ligature of arteries (in continuity) ...	2
Operations for hæmorrhoids and fistulæ ... ..	9
Extraction of bullets ... ..	5
Plastic—entropion (1), ectropion (1), hare-lip (4) ... ..	6
Excision of tumours ... ..	9
Amputation of breast (for cancer) ...	2
Extirpation of eyeball (for sarcoma)	2
Cataract extractions ... ..	6
Operations for pterygium, glaucoma, etc. ... ..	7
	<hr/>
	80

Dr. Cattell, in her report **Tooker Memorial Hospital, Soochow.** of this hospital, which was opened the autumn before last (October, 17th), after giving an account of the hospital, says:—

"Our medical work began immediately by a call to an opium suicide on the evening of the opening day. Indeed two patients had been waiting on a boat at our gate for two weeks to come into the hospital, and from that time the work grew steadily. The dispensary was open five afternoons of each week from one till four, or even five o'clock. The number of patients varied from one to forty, but this meant at least twice that number of their neighbors and friends who came with them into the chapel and there heard the gospel taught and who received tracts or hymns to take

home with them. Two Bible women were on duty in the chapel. Miss Lattimore spent all the time she could be spared from the clinic there, and often other Christian women helped in talking to the patients and their friends. As many of the patients as possible who manifested any interest in what they heard, were followed up and visited in their homes. But we regret that in this part of the work there was so little accomplished owing to our lack of workers. The opportunities were far beyond what we could meet. Many urgent invitations to visit the homes of those who had become interested and to teach them of the doctrine we were utterly unable to accept.

In clinic, from October 17th to June 26th, 1900, we saw 2,727 patients; in itinerating trips, 271; in-patients numbered 29; visits on out-patients, 150.

Medically the clinics were very interesting, presenting a wide variety of cases, from leprosy to freckles, from broken bones to bad tempers. Many were pitiful in the results they shewed of neglect or bad treatment, especially the diseased eyes and the cases of inoculation for small-pox by the native physicians. Two of these were hopelessly blind, and a third entirely deaf, and so on.

Our work presented the usual variety of amusing incidents. One insane woman made a lively ten minutes for us whenever she came. She took a special fancy to Miss Lattimore, filling her pocket with sugar-cane, chestnuts and such dainties. She was particularly covetous of the doctor's hair pins, and could only be gotten rid of by Miss Lattimore's walking arm in arm with her to the front gate and then inviting her to come again. Sometimes a number of country women would come together, all diagnosing their own cases and all demanding a treatment of electricity. Some of the people were very interesting; one, an old Chinese physician, who had been practicing medicine for thirty-five or forty years, was driven by the

pangs of rheumatism to lay aside his pride and seek help from us, who were to him mere children, foreigners and women."

### **Tungkun Hospital, Dr. Ollp's re-Rhenish Mission Society.**

port is substantially as follows: In presenting to our friends and supporters this our Twelfth Annual Report we regret to state that our work during the last year has been seriously interrupted by the unsettled state of public feeling in the South of China.

In July wild rumors were circulating, placards were posted up in the streets of Tungkun city, calling the people to kill all foreigners, to destroy the chapels and thus to increase the glory of the Middle Kingdom. On the 3rd of August the Civil Mandarin of Tungkun ordered all missionaries of this district to leave as soon as possible for a safer place on the coast as he could not protect them any longer.

Our native Christians felt themselves safer here when the Europeans were away. So we started for Hong-kong on the 6th instant, leaving the work in the hands of our native staff, who bravely carried it on, even when two months later the Roman Catholic and American Presbyterian chapels at Shek-lung, the neighbouring town, were destroyed.

We returned to our station on the 21st of October. The station was found as we had left it. Through God's grace our hospital premises were not demolished and none of our Christians persecuted or killed. So we resolved to stay.

The number of out-patients compared with that of the year before shows a diminution of over 6,000 patients. 13,779 patients (4,242 new patients and 9,537 return visits) were seen on 140 consultation days, giving an average of 98 for each day. 330 in-patients were treated in the wards, 905 operations performed and 36 home visits paid.

## Evangelistic.

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### EVANGELISTIC NOTES FROM HOSPITAL REPORTS.

Dr. Gillison, in his report of the Hankow London Mission Hospital, gives the following interesting account of evangelistic work there, the results being most gratifying:—

“We heal men’s bodies, to open an avenue whereby the Great Physician’s cure may reach their sin-sick souls. This year we have special cause to rejoice. While our general statistics show a decrease, the number admitted to the church by baptism, through hospital work, is the largest we have ever had, viz., nineteen.

Five of the nineteen are hospital employees. Is this a cause for rejoicing? Indeed it is. No compulsion is used; we wait for conviction. These men have been with us for several years; one of them, our head nurse, for over eight years. They are satisfactory hard-working servants, and we rejoice with them in the choice they have made.

Three of the patients baptised were sent in to the hospital by Christian friends, with the double hope that their bodies might be healed and their souls enlightened. That hope was realised in each of the three cases. One of these was the only member of his family that was still outside the church, and he was urged to come in by his Christian wife. Another was sent in by a young man, a former village companion, who himself had previously been led to Christ through the hospital. Thus the leaven works and the kingdom extends.

A boy, aged ten, came from Pao-ngan to have his eyes treated; his father came with him to nurse him, and both were baptised.

A well-to-do land-owner from the mountains in the east of Ma-cheng, had an elbow-joint excised. He brought a young Buddhist priest to nurse him. Both these men gave earnest heed to the truth, and the land-owner promising the priest work on his land, new clothes were exchanged for his priest’s gown, his hair was allowed to grow and both were baptised. May God watch over them in their mountain home.

Two others had been occupants of hospital beds on more than one occasion. They had got well, had gone out, and their trouble—ulcer of the leg—had recurred, and back they came. It was on their third visit that each of these two was brought to decision. The remainder of those baptised are widely scattered; let us remember them in our prayers, and one day we may rejoice together over a great harvest from those planted seeds. We purpose employing a colporteur in future to look up old hospital patients who have

been baptised or who have shown interest in the truth, and we anticipate encouraging results from this new departure.

In this joyful work of winning souls foreigner and native have worked hand in hand. Our missionary colleagues have shared with us the morning service for the in-patients, and faithful Mr. Tang has laboured through the year with much acceptance. His own loving heart and blameless life are elements of no small moment in this success.

The year 1901 opens bright with prospects. The Church in China has been in the furnace, and much pure gold has been revealed. One old woman, the mother of one of our patients, in the midst of the persecution, was warned that she had better burn incense to the idol, or she would probably be killed in a day or two. She replied, "I can only die once, I've not heard of any one having to die twice, and if I have to die, I can die now, I won't worship the idol." Nor did she; and many more, like her, have stood firm and have shown that Christ can give strength in time of need."

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Drs. Ayer and Cattell, in their report of the Tooker Memorial Hospital in Soochow, say :—

"We have been permitted the joy of seeing the power of Christ working in some of these lives, as in the case of the first two patients who came to us—a mother and daughter. The daughter, a girl of about twenty, had been ill for some months and had become so crippled that she could not walk nor stand at all. Like so many of these people, they were very poor; and the mother, who accompanied her, came with the resolve to try the foreign doctors for her daughter, and if they failed to abandon her.

As we prepared for this our first patient in this new hospital there came to us a sense of what it meant to have the privilege of receiving and caring for one of these little ones in His name and for His sake and of bringing to her the knowledge of salvation through Jesus Christ. A little glimpse of what it would mean in a heathen woman's life to receive life and light from Jesus Christ into the depths of the darkness of heathendom as it is in her heart, came over us, and we knelt by that bed and poured out our hearts in thanksgiving and praise, in dedication of the place and of our services and in petition for this girl and her mother and for the many we hoped were to follow them. When a few months later this girl and her mother were received into the church, we felt as though God had put His seal upon the work. After a few months the mother, who was then strong, went back to her work on a boat, and as she goes up and down the canals she testifies to the love of Christ and the efficiency of the hospital. Patients have come to us through her testimonies from places several hundreds of *li* away. She has made several visits back to the hospital to see her daughter, to be present at a service or two and then to go on her way again. And the brightness of



that face in contrast to its darkness and fear and distrust when she first came to us, bears testimony to what Christ has done for one heathen woman. The daughter improved gradually till she could stand and even walk alone, and we hope will eventually become well.

Another woman who has held a large place in our interest and our prayers for the past year, is Pau Nyang-nyang, who came to us as the servant of another patient. Shortly after the opening of the hospital we were called to visit an insane woman, the wife of one of the officials who had been present at the opening of the hospital. We were received by Liang Lao-ya most courteously, and after seeing the patient were asked to receive her into the hospital. He said that when at the opening he had heard it stated that we had come to help Chinese women, whether rich or poor, high or low, he had put that saying in his heart, and so had come to us. The woman had been a long time ill, and seemed a somewhat hopeless case, but we felt that we could not refuse to receive her. So she came the next day, bringing with her a servant who had lived with her many years; but alas she was but recently from Foochow, and not one word could we find in common. We brought all the linguistic ability of the place to bear, but in vain. And when the next day the Lao-ya came to inquire for his wife he arranged to send us another Fukien woman, but one who spoke mandarin, and thus Pau Nyang-nyang came to us. Within an hour we had decided that our hands would be full, for within that time she had investigated every portion of the hospital as well as our own house. She had to be indulged in a smoke before anything else could be done, and had asked more questions than could have been answered in a week. But underneath it all we found a simple, child-like, teachable spirit, and an eager desire to know more and to tell all she knew. She became a bright, happy Christian, leading her husband to become interested also, and after she returned to her home leading her neighbors to such interest that they attend services with her quite regularly. Our Bible woman has visited her a number of times, and once Miss Lattimore went with them to the home of Liang T'a-t'a, where they were most cordially received and found in the other members of the family eager listeners. She has not yet been received into the church, but she is seeking that, and we hope soon to welcome her as one of us."

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Mrs. Smyth writes of work in the Memorial Hospital, Ningpo:—

"The women, as a rule, are very cheerful, and enjoy the rest so difficult to obtain in their work-a-day lives. They are very kind to each other; the halt may be seen leading the blind, and older women "mothering" lonely children. Many of them show their gratitude by contributing to the missionary box in the ward. During the year \$1.70 was thus collected for the benefit of the poor.

When the doctor's morning visit is over all who are well enough seem very pleased to become pupils. They have good memories and enjoy learning by heart. We first teach a short prayer, which all repeat together every morning and evening; after this they learn the hymns "Jesus loves me," "There is a happy land," and "There's a friend above all others." These hymns are sung at morning prayers. Then they have sixteen selected texts to memorise. These, with the short prayer and a hymn, printed on attractive cards, are given to the patients when they leave us. More texts and hymns are learned if the length of their stay permits.

Three girls, aged respectively seventeen, eighteen, and twenty, learnt to read the New Testament in Romanized during their stay in hospital, and two other women learnt a small book of Christian teaching in Chinese 'character' which enables them, with a little further help, to read St. Mark's Gospel.

The girl aged eighteen, Ah Lin by name, is, we believe, a Christian in heart and wish. She was very earnest and gentle, and after leaving hospital she walked a long way on Sundays to attend our city church. We visited her once in her heathen home, and her mother and sister spontaneously testified to her firm belief in the Lord Jesus. She is now married, and is living with her husband's family, who are all heathen, in the country, far from church or human help."

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The Canton Hospital Report, after giving an account of the various evangelistic agencies at work and speaking of the assistants employed says:—

"The faithfulness of these assistants is well illustrated in the case of Mr. Lau, who takes the daily morning service most of the time. In October he was arrested on a false charge of being concerned in an attempt which was made to blow up the Viceroy's official residence, an attempt that resulted in the killing of several persons and the destruction of a number of houses. At midnight following the day of his arrest, Mr. Lau was taken from his temporary prison in chains to the Nam Hoi prison, where he was closely confined in irons, and for over three days following his arrest had absolutely nothing to eat. In his examination before the magistrate it was made known that he was a preacher, and he was forthwith told to preach, which he did, taking as his subject, John the Baptist's call to repentance. As soon as it was possible, he sent to the hospital for his Bible, and through his efforts several prisoners became interested in the Gospel. Later, a delegation from the leper village where Mr. Lau had been regularly engaged in preaching, presented themselves before the Nam Hoi magistrate and pleaded for the prisoner. Their visit, as well as the active efforts of Consul McWade and other friends, had a favorable influence in securing Mr. Lau's release after two weeks' rigorous confinement, during which time he was in great danger of losing his head."

Dr. Cousins says in her report of the Margaret Hospital in Hankow:—

“The daily instruction given in the wards and out-patient department and a study of the self-denying lives of our Chinese assistants leads many to purpose to lead godly, true and sober lives. But alas! women here are not even free to be good, and one feels terribly saddened by the fetters binding them down to lives of sin and misery. We wish there were some means of keeping in touch with the patients after they leave us and of helping them to honest work, by means of which they could support themselves. During their stay it seems as if the light had only begun to dawn in the dark places of their hearts, and one wishes they could get more instruction and more of that light which is our greatest possession. Thus the days of the year have sped by, and we would thank God that He has been our strength and our shield, encompassing us round about on every hand, delivering us again and again from despondency and despair, and breathing into us afresh, hope and faith in Him, and through Him in our fellow-men and women.”

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#### THE MEDICAL PROFESSION IN MISSION WORK.

The profession of medicine is primarily a missionary profession. Since ever the command of the Master went forth, “Preach the kingdom of God and heal the sick,” the professions of preaching and healing have stood shoulder to shoulder in the work of trying to relieve burdened humanity of its weight of sin and suffering. In the dark ages the sick and the wounded fled to the monastery and the priest for bodily as well as for spiritual healing and the travelling friar carried his precious salves and elixirs together with his rosary and crucifix. Through all the world’s history down to the present time the clergyman and the physician have been found side by side at the bedside of the sick and suffering.

The young physician from the time he enters the medical college until he finishes his hospital course is taught that his main object in life will be to prevent and to relieve suffering whether found in the homes of the rich or the hovels of the poor. Every practitioner carries on his list a large number of patients, from whom he neither receives nor expects any pecuniary recompense, and no physician who is worthy the name ever hesitates an instant in responding to the call of a brother who needs his services for fear that he may not receive therefor a money recompense.

In those portions of our large cities where great masses of humanity are crowded into the smallest possible space, where sickness and sorrow are more constant companions than health and happiness, where even light and air supposed to be the freest things in God’s whole universe are at a premium, the free dispensary is built alongside the mission chapel and the visits of the

dispensary doctor and the sister of mercy are looked for more eagerly even than are those of the city evangelist.

Thus we see how naturally these two professions are associated together in the great work of carrying comfort and help to the sorrowing members of the human family. Neither can we say that one is subordinate to the other. Far be it from me to attempt to lower the high calling of the gospel ministry, but when the greatest of all prophets from the depths of his gloomy prison sent forth a despairing cry as to whether the gospel of glad tidings had indeed come to the world, he was told that he was to know it not more by the fact that the poor had the gospel preached to them than by the fact that the blind saw, the lame walked, and the deaf heard.

We are proud of the profession of medicine, proud of all it has achieved throughout the history of the world for the elevation and enlightenment of the human race. Proud to feel that mankind with united hand reaches out to it for help and comfort in its sorest moments. On a white marble slab in the Board room of Bellevue Hospital, New York city, there has recently been inscribed this line: "Died in the discharge of duty Ralph J. Hess, M.D. March 24th, 1901." Simple words, but tears of gratitude will dim many eyes as they read them there. Dr. Hess died of scarlet fever contracted during a charity visit to the tenement district of the city. His name is the sixteenth on this roll of honor, and is only one of the many thousands gratefully inscribed on the memory tablets of those to whom has come through the ministrations of the medical profession strength and comfort, yea life itself.

Turning now to the frontier line where the world's great civilizing and enlightening forces are pushing their way into the dark regions of the earth we find these two professions again side by side. The chapel and the dispensary, the clergyman and the physician, are doing together the work assigned them in God's great economy for the transformation of the world. The reason for the existence of medical missions lies not so much in the fact that they are evangelizing agencies as in the fact that humanity has a mission to the bodies as well as to the souls of its suffering brothers.

Were I sure that there had been no spiritual results from the ten years of medical work done in the dispensaries and hospitals of this place, I would still feel that the one hundred and twenty thousand cases which have been treated here would amply justify all the outlay, both of labor and money, which has been expended.

No man can be really successful in his life and calling unless he considers the work he is doing, work which he believes has been put into his hands by the great architect, to be of sufficient importance *in itself* to call forth his best endeavor. Thus it should be with the missionary physician. He should regard his profession as a divinely ordained calling as much so as the gospel ministry. He should not consider his professional work as auxiliary to any-

thing, even the building up of a church, but as of itself important enough to demand his best efforts.

That the missionary physician has other duties than his professional ones is of course true just as the doctor at home has. He has his social, his business, and his church obligations, and these should not be neglected. His main work, however, is his profession, and this should be his life.

However, evidence comes to us from all parts of the mission field indicating very clearly that the medical mission in addition to its intrinsic professional worth is both directly and indirectly an evangelizing agency of no small influence.

Directly—it represents to the heathen world, and especially to the individual units which compose that world, a most tangible manifestation of the Christian religion, that by which the Apostle James said he would show forth his faith, viz., works. A Chinese gentleman in connection with a certain mission as teacher of the language, himself at the time not a Christian, has said that he well remembers with what amazement he first watched the foreign doctor attending to his patients in the dispensary. It was impressed upon him, he said, that this foreigner, evidently a gentleman and a scholar, descending to do with his own hands this, as he considered it menial work, making no distinction between the rich and the poor, the scholar and the beggar, all for the sake of helping a fellow-man, certainly embodied a principle into which it were well worth his time to examine. Nor is it possible that of the thousands who daily pass through the dispensaries, scattered throughout this empire, many should not be similarly impressed. Much more is it so with those who for days or weeks come under the influence of the physician and his assistants in the hospital. I call to mind the case of a young man for many weeks an inmate of our hospital. He had undergone for the third time an operation for the removal of a sarcomatous tumor (he refused to submit to an amputation) and knew that there was almost no hope of his recovery. He died while being carried to his home in a neighboring village. He never received baptism, but that he died strong in the faith of his sins forgiven and trusting in the love of God as manifested through Jesus Christ, I am well assured. Many such cases will doubtless occur to the minds of my readers and many more also where the patients lived and became honored members of the church and the Christian community, dating their first inclinations towards Christianity from the physical benefit they received in the mission hospital.

Indirectly—the waiting room of the dispensary, and more especially the wards of the hospital, give to the preacher of the gospel the most favorably disposed audience that he could find. They are receiving a material benefit, something which they can see and understand, and they feel themselves under obligation to give a respectful hearing to what the speaker has to say.

The most direct road to a man's heart is said to be by way of his stomach, so, too, the most direct road to a man's soul may be by way of his body. While it is true, therefore, that as a rule men do not come into the church until they have had line upon line and precept upon precept, until the gospel message has been repeated to them over and over, still it is very often the case that the first impressions were made by the preacher in the dispensary waiting room.

Along this line, too, that branch of the work known as medical itinerating plays an important part. Although not perhaps very satisfactory from a professional standpoint it probably reaches a class of people which could be reached in no other way. Even though only a small portion of those treated are actually cured, the physician's visit usually leaves a good impression in the village and makes that community more favorable to the foreigner and the doctrine which he preaches.

In regard to the evangelizing influence of medical missions, one of the prominent clerical missionaries in this province has written as follows: First speaking of the opening of a new station he says, "Our friends used as a powerful argument for tolerating us, that we intended to establish a free dispensary in their midst, and there can be little doubt that the fact that we actually did, as soon as quarters could be hastily prepared, enter upon the work of healing was to many minds conclusive evidence of the sincerity of our intentions. We were classed at once with those 'who do works of righteousness,' and as time passed by our reputation spread far and wide. At the present time it is seldom we visit a town where the way has not been providentially prepared by some case of healing. Closely related to this general aspect of the case is the very large number of individuals who are brought directly into contact with the gospel through the dispensary work . . . . Even more valuable are the opportunities afforded when, as is increasingly the case, families in the city and in the surrounding country send conveyances and invite the physicians to treat patients at their homes. In this way several of the richest and most influential families in this whole region have been entered and genuine religious impressions have been made. . . . . In the hospital the above described influences operate with increased power. . . . . On the whole it may be safely said that the value of our medical department from an evangelistic standpoint is positive and great."

In closing this all too hastily written article we would draw the following conclusions: The physician in pursuing the practice of his profession in the mission field is, first of all, following the traditions of his profession, which is inherently a missionary profession, and secondly, he is contributing in no small measure to that evangelizing force which is slowly but surely undermining the strongholds of heathenism and kindling in the hearts of the people of those lands the light of Christianity and civilization.

CHAS. F. JOHNSON, M.D.

*American Presbyterian Mission.*

## Correspondence.

To the Editor of

CHINA MEDICAL MISSIONARY JOURNAL.

**Return to I-chow-fu.** Perhaps a brief account of even as prosaic a return to work as ours has been, may be of interest to the readers of the JOURNAL.

On April 26th, Rev. W. S. Faris and myself left Tsing-tau for I-chow-fu, a station of the American Presbyterian Mission in the southern part of Shantung province. The first 150 *li*, viz., to Kiao-chow city, were over the new German railway, now building through the northern part of this province. This railway is evidently being built to stay. The road bed is well made; stone ballast being used throughout. The materials, rolling stock, etc., are all of the best quality, and expense seems not to be counted against solidity and thoroughness of construction. The coaches as yet are only third class, but clean and very comfortable.

At Kiao-chow, however, we descended to the old time mule cart, which seemed more *springless* than ever, and the inns along the route were viler and less inviting even than they used to be.

As we passed the boundary of the German territory we were met by the mounted escort provided for us by Governor Yuan Shi-k'ai. The character of these men was a pleasant surprise, and shows what good training and adequate pay can do towards making real soldiers out of the Chinese. They wore a close-fitting dark blue uniform, a marked contrast to the gaudy flapping garments of the ordinary Chinese brave, and were armed with the latest pattern magazine rifle, which they handled intelligently and kept in excellent order. Their queues were wrapped around their heads and covered by a close-fitting cap of black

cloth. They sat their horses in an erect, soldierly style, and most noticeable of all each man attended strictly to the business in hand. Our greatest surprise, however, came when at the end of the route we sent them the usual cumshaw or wine money as it is called here. This they returned, saying they had only done that which they had been ordered to do and could not accept money from us. We suspected that the amount was probably too small—we sent 500 large cash per day for each man and horse—and told the boy to inquire carefully whether that were the reason or whether they really would not take money. After some time he returned, saying they actually would not take any money. They said their commanding officer had ordered them to escort us, and they had only obeyed orders; that their wages, Tls. 10.00 per moon, were sufficient for their needs.

As this is a specimen of the "*Genus Chinensis*" entirely new to us, we think it worthy of mention. Perhaps some one of wider experience may be able to classify it.

The country at this time of year, with its waving fields of wheat and blossoming orchards, formed a pleasing contrast to the dusty streets we had left in Tsing-tau, so that in spite of the inevitable discomforts incident to overland travel in China the five days' journey down here was rather enjoyable than otherwise.

We found our property here in much better condition than the native reports had lead us to expect. Some of the dwelling houses had been rather badly damaged as to doors and windows, but the hospitals and dispensaries had scarcely suffered at all. About \$200.00 worth of instruments and apparatus had, however, been stolen from the operating room. The an-

putating case had been despoiled of its long knives; they doubtless appealing to the professional instincts of the "Ta-tao-hwei." Other instruments as tooth forceps, etc., had been taken, probably under the impression that they were silver.

We opened the dispensary a few days after our arrival with an attendance the first day of sixty patients. This has gradually increased, and the week just past has averaged eighty-six a day with an attendance on Saturday—market day—of 112. The hospital we decided not to open, as we expected to return to Tsing-tau at the end of June and preferred not to leave the hospital open during our absence. The dispensary we shall leave open in charge of the native assistant.

The attendance at the dispensary would seem to indicate that the confidence of the people in the foreign physician and his medicine has not been shaken by the recent anti-foreign crusade.

During the first eleven days after our arrival Mr. Faris and myself were invited to nine feasts. These, with one exception, were given by people outside of the church, business men and gentry of the city and suburb. Notwithstanding this apparent friendliness, however, the general opinion seems to be that the evil element among the people is waiting but too eagerly for a turn in the tide which shall give them another chance at the foreigner and his followers the native Christians.

We have sent in our claims, amounting, mission and personal, to Tls. 5,380.00, to the local official for settlement.

In regard to the question of indemnity, I have talked very freely with many prominent men here, both business men and gentry, and I am convinced that it will be for the best interests of the Church and its future relations with the community at large if the people have to pay for the damage they have done.

That the innocent will suffer with

the guilty is no argument against this. A village, a county, or a state is responsible for the acts of its citizens. The Chinese recognize this principle thoroughly, and if they are made to pay for the damage done they will be very likely to see to it that the act is not repeated. A failure to exact payment will simply be taken as a sign of weakness, and they will scarcely consider it necessary to make much of an effort to restrain the evil element should a similar occasion arise in the future. Moreover, the really and truly innocent, those who did their best to prevent these outrages, form, I fear, a very small minority of the population. One of the very best ways to change this small minority into a very decided majority will be by making them pay as well for their non-interference with, as for their active participation in, these unlawful acts.

I am agreeably surprised at the way in which the general political situation seems to be understood by the better class of citizens. It is a marked contrast to the dense ignorance which existed among the same class during the Japanese war, and shows decidedly that the Chinese people have not been standing still during the past six years. The fact that Governor Yuan has under his command several thousand troops armed and trained as I have described our escort to have been, is another sign of progress. That there is much still to be desired is also too true, but if the various foreign elements—military, mercantile, and missionary—now at work in China do their duty faithfully the next decade may see such changes in the empire as shall astonish the most sanguine.

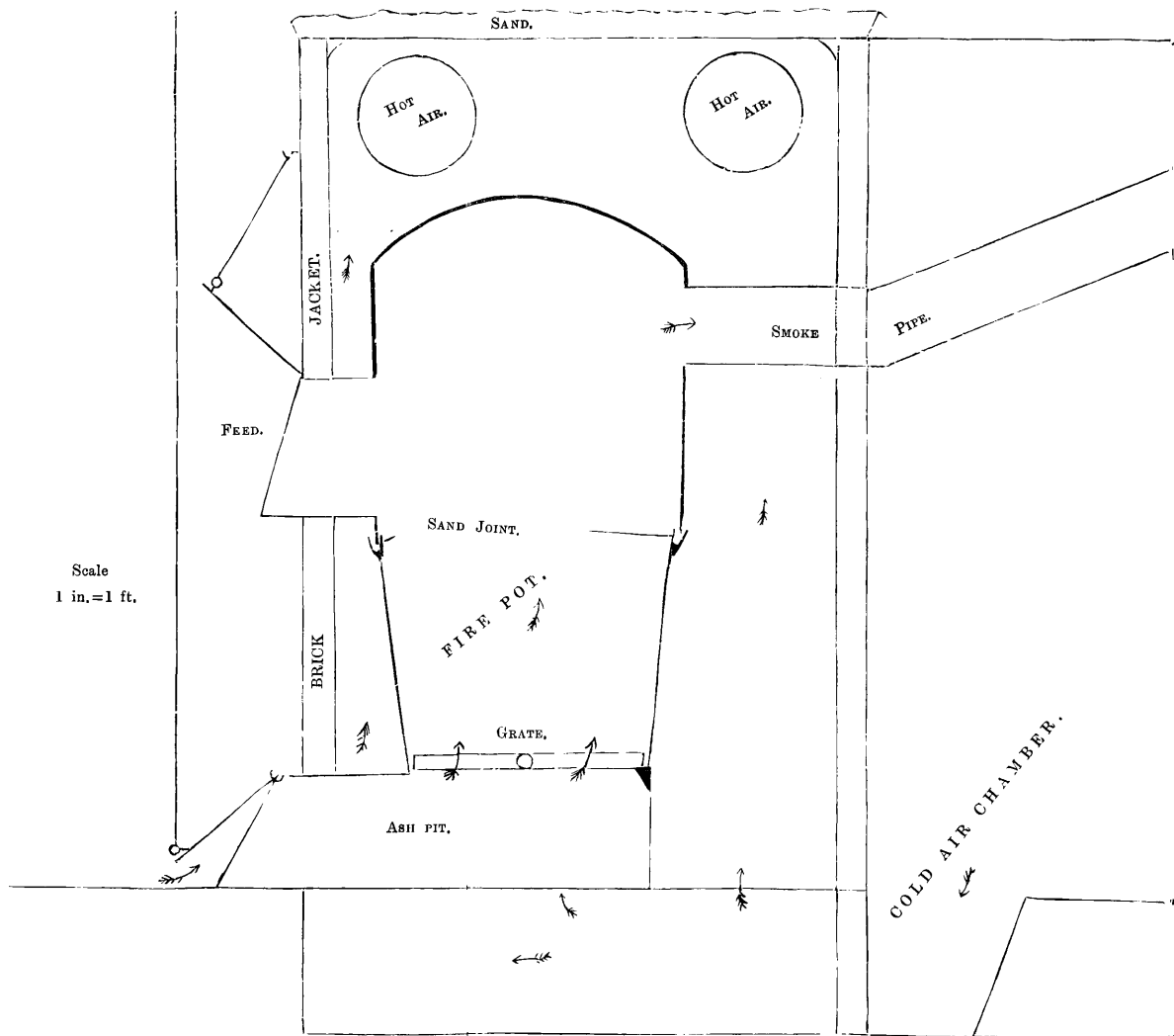
CHAS. F. JOHNSON, M.D.

I-CHOW-FU, CHINA, *June 4th, 1901.*

**Cellar Furnaces.** The following letter from Dr. Menzies, of the Canadian Presbyterian Mission in Honan, with its accompanying plan, will doubtless be read with interest by many readers of the







JOURNAL, especially those who are about building new houses, or who are dissatisfied with their present means of heating: "A medical journal is scarcely the place to look for an article on the construction of furnaces, but the writer has noticed that a great deal of the building in North China falls to the lot of medical men, as being of necessity the more stationary members of the mission. Inasmuch as medical missionaries are not always practical mechanics, the following hints are given in the hope that they may help to make some missionaries' homes more comfortable with the least amount of expense and trouble.

Having tried in North Honan for several years heating with stoves we decided, when our new house was building in the summer of 1899, to attempt putting in a furnace. After one winter's trial we would heartily recommend the use of a furnace as being cleaner, more economical, and much less bother than heating by the use of stoves. Without forcing, eight rooms were heated easily with air from out-doors. Our Mission has practically decided that all houses built in future shall be equipped with furnaces, and the late lamented Dr. Hodge, of Pao-ting-fu, shortly before his tragic death, sent for a plan of the furnace for his prospective new house. Of course there are many defects in this style of heating apparatus, but its strong point is that it may be made in China by the Chinese, and it does its work satisfactorily. Ours was constructed in our own compound by local mechanics who had never heard of such a thing before, and all the raw material was purchased on the spot, except the galvanized iron which came from Tientsin. As hot air ascends, it is necessary to build the furnace in the cellar, and as it is difficult to force hot air towards the north, it is well to place it well to the north or north-west of the cellar.

The hot-air pipes (made from empty oil tins) should be eight or ten inches

in diameter, and a jacket of hemp and lime plaster will prevent loss of heat where the pipes are long.

The smoke flue (seven inches in diameter) is of galvanized iron, and if you can provide it with a check valve you will save your coal.

Registers may be made of galvanized iron strengthened by a frame of hoop-iron on edge. There should be a cold-air register in the hall to allow the cold air in the house to descend to the cellar.

A cold-air chamber connects the furnace with a window that may be opened or closed as desired. The cold air entering the furnace from beneath ascends on all sides of it.

The most convenient jacket for the furnace is a brick wall, which need not be more than a single brick thick, and the top may be made of brick laid on iron beams, or galvanized iron covered with sand or earth.

The furnace proper is round, and as Chinese cast iron is too hard to be filed or worked in any way, it is cast in two pieces, thus making only a single joint in the whole furnace. As shown in the diagram, the top part sits loosely in the bottom part, and this joint is filled in with sand, and thus makes a perfect gas-proof joint, much better than cement.

The doors both for convenience in making and for easy manipulation open upwards.

The grate, also of cast-iron, tips forward and the bars run fore and aft and are easily cleaned from beneath with a long poker. The grate has no shaker action, although that would be an improvement.

Water in the ash-pit does a great deal towards preventing the formation of clinkers on the grate.

A perfect cement for mending any crack or hole in the stove is made by mixing equal parts of soot and common salt moistened with water. The hotter the fire the harder it becomes.

A convenient place for the water pan is the top of the ash pit inside the brick jacket. Semicircular bars

suspended on the sides of the furnace forming flues increase considerably the heating capacity.

This furnace is not patented in any country, and may be made or improved on by anyone who can."

### **Hankow Branch of the China Medical Mission- ary Association.**

The following account of the Hankow Medical Missionary Society by Dr. Hodge, should have appeared in the April number of the JOURNAL. As already suggested in the editorial columns, it will be well if the worthy example of the Hankow friends leads to the establishment of more such branches of the central association:—

"The institution of the Hankow branch dates back about twelve years ago when there were only four medical missionaries in this centre and the immediate neighbourhood—Drs. Gillison, Dean, Morley and Hodge. Many pleasant memories gather round some of those early meetings, which did not take place very frequently and were of a much more informal and social nature than the present ones. Later on Dr. Dean left us and Dr. Mackay came to be amongst the number. Some eighteen meetings were held in those days; the last being held on April 8th, 1892, in the house of the late Dr. Mackay. After his decease, our number being again decreased, the meetings fell through.

The Society was resuscitated on May 3rd, 1899; a number of new recruits having joined us. At that meeting rules were drawn up and officers elected; those for the years 1899-1900 being:—

President ... ..	Dr. Gillison.
Vice-President ... ..	" Huntley.
Treasurer ... ..	" Booth.
Secretary ... ..	" Hodge.

During the year that ~~it~~ has now come to a close twenty-two meetings have been held with an average attendance of seven; the largest attendance being ten and the smallest four. Eight of

these meetings have been clinical, at which cases have been shown and discussed. Four have been devoted to the consideration of the scheme for a united medical school, the remaining ten have been occupied with papers on the following subjects: trachoma, strange cases of mental phenomena, fever, diarrhoea and convulsions of teething, ulcers of the leg, acute dysentery, typhoid fever, liver abscess, ophthalmic practice in Hankow, desirability of establishing an infectious disease hospital in each of the large centres throughout China, faecal accumulation.

The most important work of the session was that following on a paper by Dr. Davenport on the Desirability of a Union Medical School in Central China. The details of a scheme have been elaborated, which will have to be again considered during the next year.

The Society is to be congratulated on a year of good work, work which has been a stimulus and help to every member."

### **The April Number of the Journal.**

It is such appreciative words as those contained in the following letter from Dr. Mary H. Fulton, of Canton, that make it seem worth while to keep up the publication of the JOURNAL. For the encouragement of those who helped in the make-up of the last number the doctor's letter is published in full below:—

"CANTON, April 8th, 1901.

"MY DEAR DR. NEAL:

"How kind of you to publish the last number (April) of the MEDICAL MISSIONARY JOURNAL just for me!

"As I am about to build a new hospital I was so glad to read the article on "Hospital Construction," by Dr. Butchart. "Self-support in Mission Hospitals," "Chinese Babies," by Dr. Kilborn; "Operation for Cataract," by Dr. McClure, were of course right in my line of work. The article on "Snake-bite" was almost an exact

description of a boy I found in the country on a trip, and who underwent a similar operation with the same result and after history as that described by Dr. Kinnear. I was just lecturing this week to my medical class on "Thrombosis complicating Typhoid Fever," mentioned by Dr. Judd. As I am translating "The American Text-book of Theory and Practice," by Dr. Pepper, I was intensely interested in the "Work of the Nomenclature Committee." I have been greatly hampered in my former translations by lack of terms. I am deeply interested in training hospital assistants and was extremely interested in the article on "Women's Medical Work," by Dr. Polk.

"As we have a 'Medical' Missionary Association branch here—though so weak, it is dead we might almost say—I was glad to be aroused by the Editorial. Now, do you not agree with me that the magazine was *just* for me?"

"Thanking you for such an interesting, instructive and good number.

"Sincerely,

"MARY H. FULTON."

Her fellow-missionaries in China will all rejoice with Dr. Saville in the reopening of her work in Peking, as shown by her letter below. Dr. Saville's article in the January number of the JOURNAL on "The Medical Aspects of the Siege in Peking," has attracted considerable attention, having been quoted freely in the *Philadelphia Medical Journal*, the *New York Medical Journal* and the *British Medical Journal* :—

"LONDON MISSION,

"PEKING, WEST, April 5th, 1901.

"DEAR DR. NEAL:

"I am sure you will be glad to know that it has been possible to recommence medical work in Peking. I returned late in December, and early in January settled down in Chinese

quarters not very far from our old West City Mission and opened a daily dispensary here for women and children. Our hospital work is also reorganized in the east city—a German surgeon with the forces having charge of the male side, daily out-patients and a small hospital,—while I go over twice a week to see the women. We get fairly large attendances at both places.

"I have turned all the rooms I do not use in my own courtyard into a hospital and have several in-patients and major operations. I did save some instruments, fortunately, and Dr. Poole and Dr. Velde, of the British and German Legations, have helped me out very much with dressings, instruments, etc.

"There are so few ladies (Chinese) in the city that I do not get nearly so many invitations out to visit cases as I used to; still there are some every week.

"I think the growth of confidence, and the willingness not only to be treated either as out or in-patients as occasion requires, but to be taught the truths of the Gospel, is very marked. Repeatedly one hears the remark, 'I am so glad you have come back; for a long time I have been enquiring for the foreign doctors.' I have never had such rich opportunities for sowing the seed, and I am sure in many hearts the ground has been prepared during the past months of disorder and suffering. Some day may there be a rich harvest for the Master.

"Believe me,

"Very truly yours,

"LILLIE E. V. SAVILLE."

"Among the present day developments of mission work and general progress, there is nothing of more importance than the thorough training of Chinese women in Western medicine and surgery. The field for such when properly qualified is practi-

cally limitless. Years ago that honoured veteran medical missionary, Dr. Kerr, saw the absolute necessity of lady doctors in China. He has done much to supply that want, and in this has been ably assisted by Doctors Niles and Fulton. Formerly associated with the Canton Hospital, this work has now, under the energetic leadership of Dr. Fulton, taken a new departure. She has organized what will henceforth be known as the Women's Medical School. The school is located in the west end of Canton, where there are hundreds of wealthy Chinese families who will afford ample scope for practice. Dr. Fulton has been fortunate in securing a large and most efficient teaching staff of foreign and native doctors. The course of study will extend over four years.

The thousands of women and children who pass through Dr. Fulton's dispensary every year will enable the students to gain a practical knowledge of the subjects of their lectures. In connection with the medical school, a hospital for women and children is about to be erected. The scheme is very popular with the Chinese, as may be judged by the fact that they have already subscribed \$3,000 towards the building of the hospital.

Eleven students have entered. We wish Dr. Fulton and her colleagues much success. The following is the staff of lecturers for 1901: President, Dr. Mary H. Fulton; Dr. Kerr, Dr. Boggs, Dr. Selden, Dr. Niles and Doctors So To-ming, Ho Tsz-hing, U Mi-tak and Shi Mui-hing."

*China Mail*, 25th March, 1901.

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## A Central Medical School.

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*To the Editor*

MEDICAL MISSIONARY JOURNAL.

WESLEYAN MISSION,

HANKOW, May 16, 1901.

DEAR SIR: I have had the enclosed two schemes forwarded to me with a request that I would put them before the Association for discussion and voting on. They are both suggestions from private members of the Association and are in no sense proposals emanating from the Association in its corporate capacity. I am unable, therefore, as president, to take any action in the matter until the Association has voted, neither can I look upon the committee named in the Shanghai scheme as anything more than a suggestion from a number of members as to how such a committee should be formed. Of course if the Association endorses that scheme I should have to let the names there suggested have weight, though they are the nomination of only a small number of members. I am not prepared to say yet that a committee is feasible. The deliberations of such a body could not be carried on by correspondence to any advantage, and before calling such a committee together I should want to know, in the face of the heavy expense of the Committee on Nomenclature, where the funds were to come from.

I hope that the members of the Association will carefully consider the merits of these two schemes and not be in a hurry to vote. The matter is a very important one, and there is much to be said for both suggestions. The examination idea is an old one, originally suggested, I believe, by Dr. Beebe; the scheme for a school is a new one. I would suggest that the

matter be not now foreclosed by a vote of the Association, but that the matter be remitted to a committee, the names suggested by the Shanghai meeting to form the nucleus of such a committee. That this committee meet and thoroughly go into the respective merits of the two proposals, the relative cost and all other allied questions and then submit a detailed report to the Association through the JOURNAL, upon which report a vote be taken. Should this course commend itself to the members I think that the votes for the committee might be in the hands of the secretary in time to publish in the next JOURNAL after this one. I would then proceed to take action. The only difficulty would be one of expenses, and I should be glad to receive suggestions as to how this expense is to be met.

Yours very sincerely,

SYDNEY R. HODGE,  
*President.*

CHINA INLAND MISSION,  
*Woosung Road,*

SHANGHAI, 2nd March, 1901.

DEAR DR. HODGE.

During this winter the medical missionaries residing temporarily or permanently in Shanghai, have been holding a series of meetings at Dr. Boone's house. At the last three of these the subject under consideration was the formation of a Central Medical School for China, and the enclosed propositions were drawn up and passed.

In accordance with section 12 I send you a copy, asking you to give it your consideration and support and to lay the matter before the Medical Missionary Association.

It was not till we had got partly through the discussion that we learned that you and the medical missionaries in Hankow and Wuchang had already considered the subject and got your plans matured. It is in no spirit of rivalry or opposition that we now lay our plans before you; but in the hope that you and your colleagues may be able to unite with us in this scheme, which we hope will be of more general usefulness. The respective merits of Hankow and Nanking have been considered, but while we here thought Nanking to be the better centre for such a school, the subject is open for rediscussion.

To start such a school as this, and to make it the first of similar schools in other parts of China, it is necessary that many of us should give it our hearty support, even though we may not hope to derive any benefit from it for some long time to come.

Dr. Stuart of Nanking was present at these meetings, and seemed personally in favor of this scheme.

I am,

Yours sincerely,

FRED. H. JUDD,

*Hon. Sec. at the above meetings.*

The President of the China Medical Missionary Association.

#### A CENTRAL MEDICAL SCHOOL PROPOSED.

In consideration of the difficulties medical missionaries encounter in giving their students a thorough training, and the growing demand for knowledge in Western medical science, it is proposed:—

1. That a central medical school be established. Its object shall be to give a thorough training in medical science under Christian influence to all those of good moral character who are wanted as assistants in missionary hospitals, or who wish to practice medicine in China.

2. That while the teaching be under Christian influence, the school be interdenominational and international.

3. That the Chinese language be the chief medium of instruction.

4. That the school be located at Nanking, as we consider this to be the best centre for those who wish to study medicine in the Chinese language.

5. That a charter, or some such recognition be asked from the Chinese government, so that graduates shall have a recognized status.

6. That an Executive Committee of six members be elected by the Medical Missionary Association, and that the term of service of two of these members shall expire every two years; the Executive Committee being empowered to fill any vacancy ad interim.

7. That the dean of the college be elected by the Executive Committee and hold office for five years, subject to re-election; and that he shall be ex-officio a member and chairman of this committee.

8. That the duties of the Executive Committee be to solicit aid and to collect and administer the funds, to sanction the appointment and payment of teachers, and to make such rules for the admission of students, for the maintenance of discipline, and for examination and graduation as may seem necessary from time to time. They shall control the purchase or renting of buildings or land and the erection or repair of buildings. They shall determine the course of study and have general administration of the affairs of the college. At least one other member of the committee, besides the dean, shall be resident in Nanking.

9. That medical and other missionary societies, both at home and on the field, be asked to help:—

(a.) By setting aside men partially or wholly for teaching.

(b.) By contributing towards the expenses.

And that all medical missionaries be invited to give their practical support by assisting in the teaching, or by sending students or contributions.



10. That nominations for the members of the Executive Committee be received by the secretary of the Medical Missionary Association up to June 1st of the year of election when accompanied by the names of three of the members. Voting shall be by ballots, which shall be mailed to the members of the Medical Missionary Association not later than June 15th; a majority of the votes returned being sufficient to elect.

11. That the above mentioned propositions, when finally adopted by the Association, shall be considered to be the Constitution of the college, and may be changed only after due notice of six months, published in the JOURNAL and by a majority of one-third of the votes returned.

12. That the above mentioned propositions be forwarded by the secretary of this meeting to the president of the Medical Missionary Association with the request that they be presented to the whole Association for discussion.

Also that a committee of seven be appointed to act with the president in collecting and preparing information to present to the Association for action. The president shall have power to add to their number.

The following gentlemen were nominated as members of this committee:—

Dr. MAIN		Hangchow.
„ NEAL	-	Shantung.
„ COUSLAND	- -	Swatow.
„ COX	-	Chinkiang.
„ STUART	-	Nanking.
„ E. HART		Wuhu.
„ KILBORN	-	Ch'entu.

—  
WUCHANG.

HANKOW, May 9th, 1901.

DEAR SIR:

I have been asked by the Hankow branch of the China Medical Missionary Association to forward you a copy of the accompanying scheme of examination in medicine for students studying in the various mission hospitals, etc., throughout China, with

the request that you will insert it in the JOURNAL for discussion.

The Hankow branch believes it would be better for the Association to take up such a scheme rather than establish a central medical school.

I remain,

Yours very truly,

P. L. McALL,

Hon. Sec., Hankow Branch.

DR. S. R. HODGE,

President,

China Med. Mis. Asso.

—  
PROPOSED SCHEME OF MEDICAL  
EXAMINATIONS.

1. Examinations shall be held once a year in the month of May, and shall be conducted in English or Chinese, at the option of the candidate; but all the subjects of any one examination shall be in one language only for each candidate.
2. There shall be four professional examinations:—

*1st and 3rd* being written examinations only; to be conducted in any centre where two missionaries (one being medical) are willing to become responsible for the oversight of the candidates and the carrying out of the Regulations.

*2nd and 4th* examinations to be written, oral and practical, and held in certain centres to be fixed by the Executive Committee of the "C. M. M. A."

3. The subjects of the several examinations shall be as follows:—

*1st Examination* (written). Chemistry, Physics, Botany, and Zoology.

*2nd Examination* (written and oral). Anatomy, Materia Medica with Practical Pharmacy, Physiology (except Nervous System) with Histology (Systematic and Practical).

*3rd Examination* (written). Physiology of Nervous System, Public Health, Therapeutics, Pathology, and Toxicology.

*4th Examination* (written and oral). Medicine and Surgery (Systematic, Clinical and Practical), Midwifery and Gynecology and ophthalmology, etc.

4. No candidate shall be permitted to the examination under twenty-three years of age, and unless he can produce evidence that he has studied for six years; has success-

fully vaccinated twelve times; that he has for six months been engaged in the compounding of drugs; and that he has done nine months' medical clerking; and nine months' surgical dressing in the wards of a hospital, recognised by the Executive Committee of the "C. M. M. A."

5. A diploma shall be given on passing the final examination, and the names and particulars of the successful candidates shall be published in the JOURNAL.

6. Examiners shall be appointed for three years by the Executive Committee of the "C. M. M. A," and their names published in the JOURNAL. Examiners need not be medical missionaries. Examiners' expenses shall be met by the "C. M. M. A."

7. The fee shall be \$10 for each examination, which fee is not returnable in case of failure.

## BIRTH.

At Han-yang, Central China, April 21st, 1901, to Dr. and Mrs. GEORGE A. HUNTLEY, A. B. M. U., the gift of a son—Reginald Cecil.

## ARRIVALS.

March 6th, Dr. W. F. SEYMOUR, A. P. M., Shantung; EMMA M. LYON, M.D., M. E. M., Foochow; LUCY GAYNOR, M.D., A. F. M., Nanking, all from U. S. A.

April 1st, Rev. I. J. ATWOOD, M.D., A. B. C. F. M., Tientsin; Miss STRYKER, M.D., from U. S. A.

„ 6th, Dr. ANDREW GRAHAM, Est. Church of Scotland, for Ichang.

„ 9th, Dr. AYRES, for Shantung.

„ 13th, Dr. BARRIE, for Y. M. C. A., from Canada.

May 4th, DAVID MUIR, M.D., returning to Manchuria.

## DEPARTURES.

April 15th, Dr. CHRISTIE, L.R.C.P. (U.F.C.S.M.), Moukden, for Scotland.

May 13th, Dr. R. SMYTH, C. M. S., Ningpo, for England.

# The China Medical Missionary Journal.

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## Original Communications.

[All papers must be in the hands of the Editor two months before date of publication to insure their appearance in the following number. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

### DIFFICULTIES AND DISCOURAGEMENTS OF OBSTETRIC WORK IN CHINA.

By Miss E. GOUCH, M.D.

How carefully we read them, those mighty tomes! How minutely we committed to memory their every detail till we thought we were prepared, at any rate in theory, to meet every kind of emergency and accident! Yet, oh! Playfair, Lusk, Barnes, Leishman and the rest, how *many* possibilities ye have left unprovided for, how many states and conditions ye have not even mentioned in your pages; how ye have *failed us*!

This, or something like it, is, I think, the experience of every one who comes to this country, fresh from the schools and hospitals of the West, full of the latest ideas on asepsis and antisepsis, and crammed with hard and fast theories and rules for observance in midwifery.

One generally finds the first thing to be done, is to throw *theory* to the winds and hope to obtain instead those most earnestly to be desired of all gifts—*adaptability to circumstances, a clear head, and a steady nerve.*

The doctor is called to a case—a fair specimen. The woman has been in labour five days, a primipara, aged twenty-two. Pains ceased two days ago. She is quite unconscious and is half-sitting, propped up by a couple of old women on the bed behind her. During the time preceding the foreign doctor's being called in she has been attended by the grimy old lady, who is introduced as the midwife, and you look despairingly at her filthy hands and ask if she can tell you the "presentation," which she generally can, having been investigating from time to time earlier on in the case. You feel what a splendid chance there is for the patient to escape septicæmia, and with a sigh ask for boiled water to prepare your lotion, ready to do conscientiously what you can. The water comes from some filthy pond, giving off a vile smell and having

bits of weed floating in it. You hope it has been really boiled, pour in your *izal*, *carbolic*, or other antiseptic, and add a prayer that its efficacy may not fail; there certainly seems to be no lack of germs needing to be killed. Then you proceed to get the patient placed in a position to be examined, and on laying her down, find to your horror a large, black, tense mass with a cleft down the middle. This, on closer examination, proves to be the œdematous vulva, and after carefully washing your hands and the patient, you find it impossible to reach the presenting part till the mass has been punctured in five or six places on either side of the vaginal opening and the serous contents let out. Then you examine, find a vertex presentation, head low down, delivery being hindered by contraction at the outlet of the pelvis. With a good deal of difficulty, owing to distortion of the urethra from œdema, you pass a catheter, draw off the urine, give *chloroform*, apply forceps and deliver a dead child. Having removed the placenta, manually, to ascertain if the uterus be ruptured, you swab the uterus out with ointment 1-2 of *izal*, give a douche of 1-100, leave some lotion with directions to keep wool soaked in it applied to the vulva and send a mixture containing *ammonia* and *bark*. All this you do with a kind of grim hopelessness and wonder what will happen. The patient recovers after many weeks with a recto-vaginal and vesico-vaginal fistula, and you from henceforth entertain a wondering respect for the phagocytes of Chinese women. Yet, great as the difficulties in the matter of a sepsis are, and watchful as one has to be over oneself to prevent oneself getting slack and unconscientious in details with regard to it, there are other difficulties even greater than those to be combated. Picture the following:—

Patient, a multipara, second child. Labour lasted four days, patient very exhausted, some œdema of the external parts present. Scene of action, a small boat with mats covering in a portion in the middle; five old women sitting in solemn state, smoking; the patient on the floor. Roof just high enough to admit of kneeling, *almost* upright. Examination reveals a face presentation, an unrotated mento-posterior position, well jammed down. The time of year is June; craniotomy is necessary, perforation is done through the mouth and delivery accomplished with great difficulty, for the child is large and the hard traction necessary tears away large portions of the bones of the head and necessitates several applications of the crainoclast. You perspire, ache, long for air, for water, for a new back; but at last you heave a thankful sigh as the mutilated foetus is delivered, and when, days after, while still conscious of your arms and back, you hear the woman is going on all right, you feel amply rewarded for your two or three hours' hard tussle, and triumphant because here is a case in which they have carried out your instructions and given the woman a chance by not propping her up directly your back was turned. You begin to feel hopeful about midwifery in China.

But alas! you are not long to be allowed to remain in this happy state of optimism. You are called to another case. Patient several days in labour. Primipara, aged twenty. The usual condition of extreme œdema of the parts; hard traction with forceps resulting in delivery. You leave the patient, after a hypodermic injection of *strychnine*, in much better general condition than that in which you found her, having given instructions that, if she cannot pass urine, or any other untoward circumstance arises, you are to be sent for next morning. You also particularly emphasize the fact that the patient must be kept *lying*. Next day, about midday, comes a breathless messenger to say that the patient cannot breathe. You make enquiries and elicit the confession that she had been propped up in bed "only — 一下 a little bit," when, lo! the present state of affairs set in. You go to see her and find her with all the history and symptoms pointing to pulmonary embolism, and death follows very shortly.

Here is another. Mrs. Lo, aged twenty-one. Primipara. When called, patient had been having eclamptic fits for twenty-four hours and was quite comatose, rigid, and had a very bad pulse. She had old hip disease, and left hip joint was fixed, there being several scars round the joint and considerable lordosis being present. After giving gr. xxx. of *chloral hydrate* by the rectum, and putting the patient under *chloroform*, examined, felt the promontory of the sacrum jutting down very low and the hard, unmoulded head, unfixed, high up above it. By rough calculation the internal conjugate was estimated at  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches. The head was perforated and the cranioclast applied; during delivery of the child, patient had two more slight convulsions. The thirty-grain dose of *chloral* was repeated before removing the placenta and again before leaving. A nurse remained to watch during the night, with another gr. xxx. of *chloral* and *chloroform* for inhalation in case of another attack. During the night patient had two more slight fits. By evening next day she was much better; by the morning of the third day she was quite conscious and had had no further attacks. In the afternoon she got angry about something, got up, walked to the door, and dropped down *dead*, presumably from embolism. Such things as these send one's spirit down below zero and make one feel it a very hopeless task to try to save life in these cases, because of the *want of co-operation of friends* of patients.

One cause of obstruction to labour which I have several times encountered out here, but do not find described in text-books, is distension of the abdomen of the fœtus by gases of decomposition. Here is a case in which it occurred as a complication in company with other things of interest:—

Mrs. Seu. M. 10. Eleventh month of pregnancy. Called 7 a.m., labour came on early in the morning of the day before; in the evening of that day, just at dark, a mass appeared at the vulva which looked like blood-clot. The vulva was considerably swollen, and the patient had not passed urine since

the night before. On closer inspection, the mass at the vulva was found to be a macerated head surmounted by a large hematoma, from which the scalp had been rubbed off. The catheter was passed and *chloroform* given. With traction by forceps no advance could be made, neither could a hand be passed up beyond the head to see what the obstruction was due to. I decapitated with scissors and passed my hand up to find the abdomen of the fœtus enormously distended, while on pressure quantities of gas escaped through the open end of the œsophagus, filling the room with a horrible stench. Having thus reduced the size of the abdomen, an enormous arm was next brought down. Traction on this failing to do anything, the second arm was brought down. Hard traction on both arms brought the body down far enough to just expose the umbilicus, but not an inch further could it be got, neither could a hand be passed up to find out what was wrong. The cord was quite lax, so evidently the trouble was not due to an abnormally short cord. There was nothing to be done but divide the body transversely with the decapitating scissors. The stump was carefully cleared of all spicules of bone, washed and pushed up so as to make room for a hand to be passed up into the uterus. First one foot and then the other was brought down; the stump being "turned" in the process. Traction was made on the legs, first with the hands, fruitlessly, then with cord; two cords broke, and there was no progress. Then with two of us pulling with the hands and one with cords we at last got the buttocks past the vulva.

The fœtus was a monstrosity as to size; the by-standers said the buttocks were large enough for a child of two or three years old. They certainly were big enough for a well-developed child of a year old. The whole body was badly macerated. The uterus was swabbed out with pure *izal* and contracted fairly well.\* There was an interesting history of progressively larger children. Sent mixture containing *ammonia*, *bark*, and *ergot*. The patient recovered eventually, but she had fever for several weeks; she had little or no discharge throughout, and fetor was very marked, noticeable directly one entered the room. She was troubled with sciatica for some time. This complication I have often seen in China following upon difficult and long cases.

With regard to removal of the placenta, I have learnt some useful lessons which apply only to work out here.

In a large proportion of the cases to which the foreign doctor is called, all uterine contractions have ceased some time; often several days before. This fact may be due merely to exhaustion, or as is often the case, to pressure of a distended bladder (this last holding good especially often in primiparæ), or it may be due to giving way of some or all of the muscular coats of the

\* There was in this case *very little* loss of blood, though the uterus was at first very flabby and slow in contracting. I have never seen a case of post partum hemorrhage in China, a fact probably explained by the system of starvation after labour sets in, which is in vogue in most cases.

uterus, a condition more often present in elderly multiparæ. If the inertia be accompanied with much collapse, complete rupture should be suspected. (It must be remembered, however, that collapse is not a necessary accompaniment of complete rupture.) In any case, I think it wiser not to try to express the placenta in cases where, for any reason, uterine action has been entirely suspended, but always to pass the hand into the uterus to remove it. I have several times found a portion of the wall of the uterus as thin as paper, felt between the two hands, and in a few cases have found complete rupture. These latter cases I always swab out with pure *izal* (none have, so far, consented to come into the hospital for operation), and I know of one, at least, in which the placenta had partially passed out through the opening in the uterus, where recovery eventually took place.

For the same reason, in cases of long standing labour with transverse presentation, where the prolapsed arm is much swollen and no fetal heart sounds can be heard, I think it best to remove the arm at the shoulder with blunt scissors, rather than try to push it back into a uterus which has probably undergone as much strain as it will bear. The child is almost always dead when one is called in. Space will not allow of my doing more than name some of the other conditions one finds sometimes, which lessen the patient's chances, but do not alter treatment. One may find, for instance, the perineum and posterior vaginal wall slit up with scissors with the idea of making room; fortunately the scissors are usually blunt enough to prevent much hemorrhage, and the discharge of feces through the vagina makes the greatest immediate danger. At other times one finds transverse slits. A footling presentation may be found to have been so vigorously dealt with as to leave the head in utero separated from the body (one of the most tiresome things possible to deal with), or a placenta may be left adherent to the partly inverted fundus with the cord pulled off. Once I found a patient sitting up with the child's head delivered; round the neck was attached a piece of rope on which two men were making traction outside the door, uselessly, needless to say, as they were pulling quite out of the axis of the pelvis.

This case was easily finished with my fingers when the patient was laid down, but she got a urinary fistula as the result of what she had undergone. These are some of the difficulties one has to encounter in a class of cases which give one great opportunities not only of exercising one's medical skill and realising the immense *privilege* of being able to render assistance, but which also give one large opportunities in the direction of evangelistic work.

Personally, I feel it right to forbid the beating of gongs, chanting of priests and firing of crackers while I am at work, telling the friends briefly in whom is our trust and to whom we look for help. When all is over, an opportunity is generally given to tell to an attentively listening crowd more fully of the great Physician's power and love.

The methods of treatment for various conditions given in this paper will not, I am aware, meet with the approval of everyone here, but I believe that in this work, perhaps more especially than in any other, absolute confidence in one's own methods, once one has worked them out with the aid of experience, is the important step towards success.

*Wesleyan Missionary Society, Hankow.*

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## TWENTY YEARS' EXPERIENCE IN THE TRAINING AND EMPLOYMENT OF MEDICAL STUDENTS.

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By B. VANSOMEREN TAYLOR, M.B., C.M.

Before leaving for China special stress had been laid upon the fact that my first year or more had to be given up to uninterrupted study of the language, but on my arrival here I found that my clerical colleagues were not of the same opinion, for it was their wish that I should at once open a dispensary and begin medical work.

The clerical missionary with whom I was residing was quite willing to help me in the work at the start, but I soon found that his duties were more than he could overtake, so that I could not rely on him, and I soon found out that the only help I could get would be from a young Chinaman who had been appointed as a helper, who knew nothing either of English nor of medicine. I soon discovered also that having once begun medical work it grew upon my hands and that it was more than I could overtake, and also that my time for study was much broken into.

So it occurred to me that my time would be profitably spent in teaching and training a few young men, who afterwards might be made use of by the mission as medical catechists.

I had hoped that my clerical colleagues would have seen their way to advise and assist me in this, but I was very disappointed to find out that my plan was met not merely with no good will but with direct opposition. The reasons urged against it were somewhat as under :—

“You have been sent out to do mission work, not to train medical students.”

To this my reply was, “Surely this is mission work. Do you not have boys' schools, girls' schools, colleges, and do you not regard education as a very important part of mission work?”

“Oh! Yes,” was the reply, “but it is not quite the same. We teach the Bible and train men to be catechists.”

To this I replied, “Do you not teach them a great deal more than the Bible? Don't you teach them to read Chinese classics; which are heathen books, not to mention a certain amount of foreign knowledge and science, e.g., geography and arithmetic?”



To this the clerical reply was, "Yes, but you know that this is necessary. Unless they read Chinese classics they will not be fit workers, and the science develops and opens up their minds."

To this I replied, "Exactly, and will not the knowledge of medicine enable them to become fit workers for Christ and develop their minds? In teaching them medicine we are but teaching them certain facts with reference to God's kingdom, certain of God's laws, and the result of breaking those laws, and our endeavour to remedy those results. You teach them geography, the knowledge of the earth made by God. I teach them anatomy, the knowledge of the body made by God. You teach them that two and two make four. I teach them that the result of a good dose of *quinine* in ague relieves them of fever and a good deal of misery. Moreover, what we want are Christian workers, men who will not merely preach Christ, but live like Christ; men who will not merely teach what God's will is, but will do God's will amongst this people, for does not Christianity consist in something more than answering certain questions satisfactorily with reference to Christian doctrine? Does it not consist in following the example of Christ in doing the will of the Father and in acting out the principles He has laid down for our guidance? Has not Christ told us that when the Son of Man shall come in His glory, the King shall say unto them on His right hand, 'Come ye blessed, inherit the kingdom prepared for you, for I was an hungred, and ye gave me meat; I was thirsty, and ye gave me drink; I was a stranger, and ye took me in; naked and ye clothed me; I was sick, and ye visited me.' Surely the training of students is not merely mission work but a very desirable form of mission work, for have we not placed with us, for a certain number of years, young men of such an age that we can somewhat influence their lives and train their character? That we have daily opportunity of watching their lives, correcting their mistakes, helping them in their attempts after all that is true and noble, just and right, of daily bringing them into contact with God's Word and the teaching of Christ, and that too in the exercise of a profession which we believe to bring into action the Christian graces of self-denial, sympathy, and love."

"Yes," replies the clerical, "that is all very well in theory, but in practice you will find it very different. The whole question is beset with difficulties." To begin with, "Where are you going to get your men from? If you take on heathen men you will find that they will do more harm than good."

I reply, "It is not my intention to take on heathen men, though even something might be said for them, for are not heathen admitted into the high schools or colleges in the hope that whilst there they may be influenced by contact with Christians and Christian teaching? but I admit the risk at

present is too great. I hope to get boys who have finished their training in the boarding-school to come on as students. I hear of several who are willing to come, are anxious to come."

"Oh," replies the clerical, "that is out of the question; we need all the boys that we have got to pass into our college to be trained as catechists. Of course some want to go because they know that a Chinese doctor, as a rule, becomes a wealthy man, and that is what makes them offer."

To this I reply, "I am sorry to hear you say that. If boys are willing to study medicine why should they not be allowed to do so? Why put pressure on them to become catechists? Might it not be left to their own choice? Why is it that the men's motive is pure in wanting to become a catechist and not so when he wants to become a medical student? May not the motive be the same in both cases? Are you quite sure that a theological student is not with you for the sake of gain?"

"Quite so," is the clerical reply, "but the theological student has not quite the same temptations as a medical. A medical will be tempted to steal your medicines, to squeeze your patients, and after he has got a little knowledge leave you in the lurch and set up for himself, and probably make a fortune selling those horrid *morphia* pills."

"I admit all this," I reply, "but if we abandon work because of the difficulties connected with it and the temptations which surround it, we shall have to give up Christian work altogether. Christ was not exempt from temptation. I had hoped that you would have given me some help and advice in suggesting how these temptations might be overcome or prevented, but to recognize them is to be on one's guard. But let me ask, Do not similar temptations beset catechists? e.g., Do not they often augment their income by some private work of their own? Have you never heard of a catechist receiving a good sum for settling some law case, and have you not heard of catechists selling what you call those horrid opium pills and defending their action in doing so on the ground that they are trying to cure opium eaters in order that when cured they may become church members? Have not some of our catechists, too, left the mission, and would not others go too if they could get a higher salary elsewhere? Yet you don't advocate closing your theological colleges. Besides do you really require all the boys who leave the school to be catechists? I don't want many, say six, to begin with."

"Well," replies the clerical, "we might let you have a few boys who are not fitted to be catechists."

"Thank you," is my reply, "they are just the boys I do not want."

"Do you intend," asks the clerical, "to pay the students while learning?"

"Yes," is my reply, "I wish we could do without paying them, but you know the old saying, 'a bird in the hand is worth two in the bush.' Do you

think that a boy would be willing to come to me for nothing when you are ready to pay him \$3 or more a month? Besides I think that there are reasons for paying him. You have pointed out several of the temptations to which he would be exposed, viz., stealing the medicines, squeezing the patients, and leaving us before he is properly trained; now why would he do this? Is it not because he wants money to support himself? If we give them support the power of the temptation would be lessened, if not quite removed. Then I think there is a reason why we should do so, viz., we hope to get these students to help us in the work; they will do work, and it is only right that they should be paid whilst they work. At the same time I shall rejoice when the time comes when it will not be necessary to pay them. But I am afraid that it will not come before you cease to pay theological students whilst in training, and until we get a richer class of Christians than we have at present."

"Well," is the reply, "we will see what we can do."

More than twenty years have passed, and I would like now to give my experience. I started off with two well-recognized ideas:

First. To train workers for Christ, not necessarily to be paid by the mission after they had been trained.

Secondly. To be sure that the men were willing to be workers for Christ. How many never had any influence with me. Sooner have no men than bad men.

At the beginning I found great unwillingness to allow good boys from the boys' school to come to me. I therefore found great difficulty in getting suitable boys. This, I am glad to say, has changed. I seldom had more than four, if that number, after the first six months.

My experience of boys who have not been trained in the boys' school or some similar institution, has not been satisfactory. I gave every new-comer to understand that for the first year he was simply on trial, that at the end of six months I would let him know whether he could stay or not till the end of the year, and several had to go at that time, because I considered them unfit—not that they wanted to go.

At one time it was thought that the time had come when we could take on boys without paying them, but experience showed that we were wrong. Dr. Rigg, of our Mission, was unable to get any, and though I got some they were most unsatisfactory, and it was during the time that they were on trial I had my first experience of medicines being stolen from the dispensary. An inroad was made upon the boxes of the students and the missing medicines were discovered and the boy dismissed. However we found out that he was not the only one, for one or two bottles again disappeared, but this stopped soon after another student was dismissed for cheating in his examination.

The numbers who have been trained have been few, but with one exception have proved reliable and satisfactory workers. I left my work in their hands when I went home for furlough, and they carried it on in a satisfactory manner.

They are looked up to, and respected by, the Christians and fellow-workers, both European and native, and are holding responsible positions at present. They have shown themselves willing to face danger and persecution, and by their consistent life have put down opposition. Even the one exception is a leading man amongst the Christians of his city.

One I may say dropped his medical work, though not mission work, but is now an ordained clergyman of the church, though he was never at the theological college. Others are not in mission employ, but are still Christians and are doing work for Christ.

I think I might sum up by saying, that I consider the training of medical students to be a satisfactory form of mission work, but it needs to be carefully guarded by thorough sifting at the very beginning and only those employed who have proved themselves worthy after careful testing.

*Church Missionary Society, Hing-lwa, Foochow.*

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## MULTILOCULAR CYST OF THE LOWER JAW.

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By J. A. OTTE, M.D.

The patient was a well-nourished lad, appearing older than he really was. I would have taken him to be at least twenty-two, whereas he was only sixteen. He had a hard bony tumor involving the greater portion of the inferior maxilla, viz., the lower part of the right ramus and the whole of the body on both sides up to the insertion of the second molar on the left side. The teeth were in perfect position, and were all present, except the second bicuspid on the right side, which was wanting. The growth of the tumor was downward, backward, and inward. After removal it was found to be four inches in diameter from right to left and two inches in diameter through the symphysis, two and a half inches from above downwards. On the right side of the face was a sinus extending down to the bone, the result of an effort to remove the tumor with caustics. The history was indefinite, but the patient said the tumor had been growing for about two years. There had been no pain, but articulation was becoming indistinct and swallowing difficult. There was no evidence whatever of the tumor being cystic. Indeed, after removal it was found that except for numerous small cysts, the size of a pin-head to that of a bean, the whole of the enlarged *alveolar* process was practically solid, while the rest of the bone was cystic.

On January 2nd the writer and Dr. C. Johnson removed the tumor. Tracheotomy, below the isthmus of the thyroid, was attempted. As this organ extended almost down to a level with the top of the sternum it became necessary to cut through the cricoid cartilage. This part of the operation was very tedious and annoying. Three small sponges were then pushed down into the larynx and the diseased bone removed by disarticulating the right side and sawing between the second and last molar on the left side. It was only while dissecting off the tissues on the inner side of the tumor near the attachments of the tongue that the cystic nature of the tumor became apparent. Here one of the large cysts was covered only by periosteum, the bone having been absorbed, leaving about half an inch of the bony cyst simply covered by periosteum. The outer surface was exceedingly vascular, causing much delay. On the third day after the operation the tracheotomy tube was removed. A silk thread was passed through the tip of the tongue at the time of the operation. It was only by pulling the tongue forward by means of the silk thread that the patient was able to swallow for about a week after the operation. The main portion of the wound healed by primary union. The exception was where the sinus in the cheeks had been cut out. This healed by granulation. The temperature was normal until the morning of the third day, when it rose to 100. After this until the ninth day it ranged between 98.2 and 101.2. On the evening of the first day the pulse was 140 and small. It gradually improved in character until on the ninth day, when it was ninety-two, where it remained until the patient was discharged.

By January 29th the patient was practically well, but still very weak. Articulation was very indistinct.

On February 8th there was a swelling on the left side extending from just above the mastoid process down to the middle of the sternocleido-mastoid muscle. It was feared this might be a recurrence, but it proved to be only an abscess, which, after opening, slowly healed. This abscess kept the patient in the hospital until March 5th, when he was finally discharged.

After removal, the tumor was sawn through near the symphysis. In the section fifteen large and small cysts were seen, the largest the size of a dove's egg. These did not communicate with each other. Besides this, by cutting through the bony portions, numerous other cysts were found. In order to preserve the specimen, further section was not made, hence many of the smaller cysts were probably not discovered. These cysts contained a glairy brownish fluid. In some cases the walls were smooth, and in other cases lined with interlacing trabeculae. The sinus in the face led into one of the cysts which was suppurating. I have been able to find but little on the subject of multilocular cysts of the lower jaw in the books available.

## PROCTITIS FROM CHILL.

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By EDWARD F. WILLS, M.B., C.M.

This complaint is not described clearly in any surgical text-books, but I believe it is a fairly common one in warm countries such as China. A case came under my notice last summer, and is a reliable one as far as the symptoms go, because the patient was a medical man and was also under treatment all through. In August during the hottest of the summer in Hankow the patient had been constipated for three days; he also had been in the habit of washing the perineal region daily for a small patch of tinea. The three days' constipation ended by the passing of a very large motion of formed feces. This, owing to the stretching of the sphincter, caused a sense of pain about the anus for a little time; from this time onward and for several days he complained of lumbago, a pain in the small of the back, which he felt when he had to rise from a chair; bowels were now regular, but the washing of the perineum was continued as before. By degrees the lumbago got worse, and finally he had to take to bed. In bed he could not turn without intense suffering and had to take his meals lying in the horizontal position; to get up he had to rigidly fix the body and use the arms to push himself on to the side and gradually get up without unbending; all this time his appetite was good, bowels were regular, no temperature, and the only symptom was the excruciating pain in the back. An examination was made of the rectum; the mucous membrane of the anus was velvety to the feel and the finger entered very easily, the sphincter felt as if it were overlaid with some gelatine composition; no throbbing veins could be felt, and all rugosities felt as if they had been overlaid with this composition. The motions were passed without pain, and to the patient they seemed as if the exit had been facilitated by the anus having been anointed with *vaseline*; he did not strain, but had to make a conscious effort to restrain himself from straining, feeling as if the bowel might prolapse; the feces had traces of glairy mucus, but no traces of blood. The patient staid in bed for about a week, during which time he was on ordinary diet and took no medicines. Gradually he was able to get up, but the only two positions which were free from pain were standing upright and walking, or lying flat on a couch. It was quite a month before the pain passed away, and after that it would recur after a long walk; the walk would be free from pain, but next day he would be bad. He has had no recurrence of the symptoms since. Another medical man complained to me of lumbago during November of last year, and he was considerably surprised when I hinted that he had been exposing himself to chill by washing the perineum. I have also seen many Chinese patients who complained of this pain in the back when they rise

from the attitude they take at stool, and some say that the pain is intense ; probably their trouble arises from the cold draughts, which are an essential part of Chinese water closet arrangements. These cases are all, I think, inflammation of the mucous membrane of the lowest part of the rectum, due in the first case to fecal accumulations as the predisposing cause and to chill (in the first case it was from the bathing) as the exciting cause. The treatment nature seems to demand is rigidity of the back, which gives rest to the rectum. The only drug that was thought of at the time was *ung. conii*, to relieve pain, but it was unavailable ; perhaps some mild astringent such as *zinc sulph. lotion* might have hastened matters, but the risks of chill and constipation in the heat of a tropic summer decided against their use.

I don't think this trouble can be too lightly regarded, as in hot weather, with so many sources of infection about, and often the low health of the patient or his liability to the same, one could easily imagine a very violent and even fatal inflammation being set up. One rule added to my stock from this case was : always examine the rectum in lumbago, and for treatment I think bed should be insisted on.

*London Mission, Tsao-shih.*

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## ON THE TREATMENT OF ULCERS BY SKIN GRAFTING.

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By J. PRESTON MAXWELL, M.B., B.S., F.R.C.S.

It is now some years since I first became acquainted with the value of this form of treatment in the healing of ulcers. My first case of skin grafting will always remain impressed upon my memory. It was that of a young girl of eighteen, who had burnt herself most severely and had destroyed the whole thickness of the skin over the whole of the upper arm down to one a half inches above the bend of the elbow ; the destruction of the skin having also involved an area about the size of the palm of one's hand, both over the pectoralis major and also over the scapula ; altogether as bad a burn as I ever wish to see. As soon as the surface was in a healing condition, I grafted it in two stages by Thiersch's method, doing one-half on each occasion and transferring the skin directly from the thigh to the ulcer in the manner hereafter to be described. Most of the grafts took, and in six weeks she left the hospital healed and without any contracture. I saw her at intervals during the next two years, and the arm remained perfectly sound, there being no sign of the contracture which I had feared.

Since that time I have done the operation many times, but I have taken it up more extensively in view of the large number of ulcers that come under one's hands in a mission hospital in the East.

## FIRST AS TO THE CASES SUITABLE FOR THIS TREATMENT.

The ideal case is that of a large, clean, healthy ulcer, high up in the leg in an individual who is otherwise strong and well. But this latter desideratum is not always to be obtained, and so one has to consider the matter more in detail.

Malarial cachexia and malarial enlargement of the spleen are not barriers, unless they are severe. Beware of doing any operation on a bad malarial cachetic.

Of course active malarial fever should not be present, though I may at once state that a sharp malarial attack, in the course of convalescence, if taken in hand at once, does not interfere with the healing by first intention of an operation wound or the taking of Thiersch grafts. I have seen this many times. In one of the most successful cases of skin grafting I have ever had, the patient, a girl of twenty, with a malarial spleen, had a sharp attack of malarial fever on the third day after the operation. Her ulcer, however, which was of three years' standing and about two inches by one a half inches, healed completely in ten days, every graft taking in its entirety.

Syphilis is not an absolute barrier, but I generally refuse to graft a gummatous ulcer, firstly because under medicinal treatment these almost invariably heal up, in time; and secondly, because a gummatous condition may be set up in the situation from which the grafts are taken. Of course this objection does not apply if skin can be obtained from another individual.

Tubercular ulcers with large, pale, flabby granulations do badly. In a patient of this kind it is better to obtain skin elsewhere, and very often the result ends in failure.

Necrosis in the area to be grafted is an absolute barrier to perfect success. A few of the grafts may take, but owing to the impossibility of disinfecting the ulcer, as often as not all the grafts die.

There is another absolute barrier, and that is active ulceration at the edge of the ulcer. In a case of cellulitis, which has resulted in sloughing of the skin, it is waste of time to try to do skin grafting until the ulcer is a settled entity, without a single pocket.

It is hardly necessary to point out that the nearer the trunk, the greater is the chance of success, and also that an ulcer on the arm is more likely to prove a successful case for grafting than one on the leg.

## TO TURN TO THE METHODS AT ONE'S DISPOSAL.

They are as follows :—

- (a). Cuticle grafting.
- (b). Grafting with animal's skin.
- (c). Reverdin's method.
- (d). Thiersch's method.



(a). CUTICLE GRAFTING.

This may be appropriately considered first. It consists of raising a blister on previously cleansed skin and transferring the cuticle to an ulcer which has been prepared for it, and dressing the part carefully, the dressing keeping the cuticle in position and exerting some little pressure on the part. I do not enter into details of this method, as in my hands it has proved almost uniformly unsuccessful—in this respect a great contrast to the results I have obtained from Thiersch's method. I am quite aware that some claim to have had very good success with this method, but that is not my own experience.

(b). GRAFTING WITH ANIMAL'S SKIN.

I have not fully finished experimenting in this direction, so cannot speak positively. On one occasion I used skin from a new born rabbit, and the result was a complete failure. On three occasions I have used skin from young frogs. In one of these cases the skin took for a time, and then as it were melted away, and in all the cases, healing of the ulcer was greatly expedited. I hope in due time to make further experiments in this direction.

(c). REVERDIN'S METHOD.

This consists of snipping off small pieces of skin with the aid of a special pair of scissors, which grasps and lifts the skin, which is cut away. These small islands are sown, so to speak, over the ulcer, and may materially hasten the healing. But as this method takes almost as long and is not one-half as effective as Thiersch's method, I have abandoned it entirely in favour of the latter.

(d). THIERSCH'S METHOD.

This is the method I now almost invariably employ, and I may at once state that it is a method which depends for its success on the careful observance of detail. To be careless is to court failure, and possibly to leave your patient in a worse condition than before. But with due care there is no fear of such an untoward result. Let me describe:—

- (1). The general idea of the operation.
- (2). The preparation of the ulcer.
- (3). The preparation of the area to be drawn upon.
- (4). The technique of the operation.
- (5). The after treatment.

(1). *The general idea of the operation* is as follows: To remove from a healthy area a shaving of skin as thin as possible and going just below the summit of the papillæ.

To transfer this shaving with as little handling as possible to an ulcer, which has been denuded of its granulation tissue until a firm base has been reached, and in which all bleeding has been arrested by pressure before the application of the grafts.

To dress the ulcer in such a way that the grafts are retained in position and at the same time serum is allowed to drain away, while slight pressure on the surface of the ulcer and warmth are maintained during the time that the grafts are forming vital connections with the bed of the ulcer.

(2). *The preparation of the ulcer.*—The ulcer, which is supposed to be healing, is thoroughly cleansed and the skin around it scrubbed with soap and water and deprived of fat by the use of turpentine. Fomentations of *perchloride* or *biniodide of mercury* 1.4000, or *carbolic acid* 1.60 are then applied for at least twenty-four hours before the performance of the operation.

(3). *The area to be drawn upon* is usually the extensor aspect of the thigh. This should be thoroughly cleansed in its whole circumference with soap and water, rubbed with turpentine to remove the fat, washed with *biniodide of mercury lotion* 1.500 in 60 per cent. alcohol; this strong solution washed off with 1.4000 *biniodide solution* and a gauze dressing soaked in 1.4000 *biniodide lotion* wrung out, applied and covered with gutta-percha tissue. This should be done at least twelve hours before the time of operation.

(4). *The technique of the operation.*—*Chloroform* must be given. The operation is intensely painful and cannot be done without an anesthetic. As soon as the patient is well under, the ulcer is scraped with a Volkmann's spoon, removing all the granulation tissue and the hard edge and leaving a bare smooth base. An assistant should then make firm pressure on the ulcer with wool swabs, wrung out of hot *boracic lotion*, in order to arrest all bleeding.

From the area on the thigh which has been selected, large grafts, conjointly equal in extent to the area to be grafted, are rapidly cut and transferred to normal saline solution kept at body heat. By this method it is unnecessary to keep the patient under *chloroform* for more than a few minutes, as the adjusting of the grafts, and dressing of the wound, can be readily done without *chloroform*, as the process is practically painless. Formerly I used to transfer the grafts directly from the thigh to the ulcer. There are two objections to this method: first that the thigh wound may become contaminated from the ulcer. As to this I have never known it to happen, and providing reasonable care be taken I regard this objection as not worth considering.

Secondly, and this objection weighs largely with me; whereas with a large ulcer my patients used to remain under *chloroform* for from half an hour to one hour; now the time is reduced to a few minutes.

As to the cutting of the grafts. It is well to use a special knife. A razor will do, but it is extremely difficult to cut the grafts thin and large. My own knife weighs nine ounces, is nine inches long—handle four and a half inches and blade four and a half inches. The blade is three quarters inch broad and is not wider than the handle. The majority of grafting knives are made with the blade nearly twice as broad as the handle, a pattern which is more difficult, in my experience, to use deftly. The handle and blade should be forged in one piece and it should be kept very sharp.

The only other instruments needed are a Volkmann's spoon, or a curette, a fine probe, and a pair of forceps to help in spreading out the grafts. In the actual cutting of the latter from the thigh, the left hand of the operator grasps the back and sides of the limb and renders the skin to be cut tense and steady. With a sawing motion the operator removes grafts of the required size and shape, cutting them as described before and keeping knife and limb wet with the lotion (*saline solution*). One to two inches long and about half an inch wide is about the size. Some have supposed that many tiny grafts take better than several large ones. In my experience if the large grafts are cut of proper thinness, they take quite as readily as the small ones, and the saving of time is a great consideration.

The surface from which the grafts have been taken is washed with *boracic lotion*, dried and dressed with *zinc ointment* on lint. It need not then be touched for several days, and the scar that is left is of no importance and gradually disappears. The operator need not be alarmed if the patient complains of great pain in this situation the day after the operation. The nerve endings have been bared and may give considerable pain. But this will gradually pass away if left alone.

After all bleeding has ceased, the grafts are taken from the saline and placed in position, under surface towards the ulcer bed. There is no difficulty in telling the under surface, as the appearance is smooth and the grafts tend to curl under.

After they are placed in position they must be gently pressed, using pledgets of wool, wrung out of hot *boracic lotion*, in order to displace any blood, air, or lotion which may have got underneath the grafts.

It is essential that the surface of the graft should rest directly on the ulcer base. The grafts should just touch and should come just up to the edge of the ulcer, which they should not overlap. The grafts should be held in position by strips of silk prepared with isinglass (Seabury and Johnson), or strips of perforated gutta-percha tissue. The essential is to fix the grafts in position with some material which can easily be removed. Over this a dressing of antiseptic wool should be placed and the limb bandaged from the extremity, using moderate and even pressure.

(5). *After treatment.*—The patient must not be allowed to walk about and the limb should be slightly elevated. In cold weather it is advisable to wrap the limb in cotton wool, or apply a hot water bottle or bag to the part. I make a rule of opening all on the fourth or fifth day. If I am afraid of septic infection I open on the third day, but this is rare. In any case great care must be taken not to disturb the grafts which have adhered, and no strong lotion should be applied. The part should be redressed precisely as at the operation and left undisturbed for another couple of days. These dressings may then be removed and an ordinary dressing of *zinc ointment* spread on lint applied, the patient being allowed to get up and walk about, but abstaining from any exertion.

As to the results, in many cases they are brilliant successes, in some moderate successes, and in some complete failures. Some of these last can be easily seen to be due to a failure in the antiseptic method or to some other obvious cause.

The food of the patient during convalescence should be sharply looked after. I have known three quarters of the grafts of a child, who was nearly healed, die and ulcerate away, and as far as one could judge, the determining general factor was poor food.

In most of the cases which were a failure, as far as the life of the grafts was concerned, the operation was by no means unsuccessful; as although the grafts died, their presence seemed to have a stimulating effect on the ulcer, which spontaneously began to heal rapidly.

I am quite aware that some of the cases afterwards break down again, but the majority certainly do not, and the operation surely gives them a better chance, as the contraction which ensues, is by no means great, and the tissue of which the scar is composed is endued with much greater vitality. In some cases, such as the ulcer, which unavoidably follows a large excision of skin, as in the case of an ulcerating carcinoma, it is unnecessary to remove the granulations, and the grafts may be applied on the surface of the granulation tissue.

Finally there is one method of skin grafting which deserves note. The skin removed in an entropion operation may be directly applied to a healing ulcer and in some cases will take in its entirety. But here again the results are very uncertain and disappointing.

I have now performed Thiersch's grafting fifty times. Appended is a list of twenty-one consecutive cases to give some idea of the scope and success of the operation.

TABLE OF ILLUSTRATIVE CASES FROM THE WRITER'S PRACTICE AT CHANG-POO.

*N.B.*—These cases are a consecutive series, none being omitted for secondary reasons. The word within brackets in the last column indicates the number of grafts that took and the capital indicates the sex of the patient.

NO.	NAME.	AGE.	DURATION.	SIZE OF ULCER.	SITUATION.	SOURCE OF GRAFTS.	RESULT.	TIME FROM OPERATION TO HEALING OF ULCER.
1	K.	39	3 years.	2 × 1½ in.	Shin.	Opposite thigh.	Soundly healed.	19 days (all). M.
2	B.	22	1 year.	2 × 1 in.	Between malleoli.	"	"	10 days (all). F.
3	C.	55	"	4 × 1½ in.	Lower portion of calf.	"	"	18 days (all). M.
4	S.	25	6 mons.	1 × 1½ in.	Shin.	Another patient.	Healed.	21 days (half). M.
5	L.	14	1 month.	AN the dorsum of the foot.		Opposite thigh.	"	* 45 days (a third). F.
6	C.	26	2 years.	Small.	Middle of leg.	Another patient.	"	14 days (all). M.
7	T.	45	2½ years.	1 × 2 in.	Calf.	Opposite thigh.	Not healed.	One graft took. M.
8	B.	36	3 years.	4 × 2 in.	Shin.	"	¾ healed.	16 days (two-thirds) M.
9	N.	34	6 "	3 × 2 in.	"	"	(Upper half grafted) healed.	15 days (all). M.
10	N.	34	"	3 × 2 in.	"	"	(Lower half grafted) not healed.	Grafts failed. M.
11	K.	25	1 year.	1 × 1½ in.	Dorsum of foot.	Another patient.	Healed.	1 month (grafts died). M.
12	J.	46	1½ years.	1½ × ½ in.	Dorsum of foot and ankle.	Opposite thigh.	"	25 days (two-thirds). M.
13	T.	25	1 year.	1 × 1½ in.	Shin.	"	Not healed.	All grafts died owing to infection with staphylococcus aureus. M.
14	K.	28	"	2 × 1½ in.	"	"	Healed.	1 month (a third). M.
15	A.	38	1½ years.	1 × 1½ in.	Dorsum of foot.	"	Not healed.	All grafts died owing to infection of wound. M.
16	L.	22	4 "	Small.	Shin.	"	"	Grafts died, ulcer base little vitality M.
17	H.	29	6 mons.	4 × 3 in.	Outer part of thigh. †	"	Soundly healed.	20 days. (three quarters). M.
18	C.	33	3 years.	4 × 2½ in.	Leg.	"	Ulcer size of six-pence left.	14 days (a third). M.
19	S.	24	1½ years.	2 × ¾ in.	Foot.	"	Disch. himself. Soundly healed.	26 days (all). M.
20	I.	22	1 year.	Small.	Leg.	"	Not healed.	Grafts failed. M.
21	K.	40	3 weeks.	4 × 3 in.	Breast. ‡	(From patient No. 20.)	Healing rapidly.	10 days (all). F.

\* In this case, which was following acute cellulitis, I did not wait long enough to get rid of all pockets.

† Due to a burn from kerosene.

‡ The case was one of ulcerating scirrhus in which I removed widely the breast and axillary glands, making it impossible to close the large wound. Thiersch grafting at the end of three weeks. Patient had to go home (with the ulcer healing), owing to family reasons.

## THE MEDICAL SCHOOL.

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By ROBERT C. BEEBE, M.D.

In the July number of the JOURNAL two projects for medical education are advanced, and as the subject is timely and important, it is to be hoped that further discussion will be elicited.

That the question is an important one is made evident to every medical missionary at the beginning of his career in China, as one of the first questions that confronts him is where will he find trained assistants. The answer in a large majority of cases is the answer of necessity, "Train your own assistants." So far in the work in China very few hospitals have any good men to spare, and while there are usually several inferior and questionable hospital assistants waiting for a position all medical work is better off without them.

The whole question is a difficult one to solve satisfactorily. The medical missionary has more work crowding in on him than he can attend to. He must meet, and in some way dispose of, problems in all the departments of medicine and surgery, and these come in continually, regardless of time or the doctor's convenience.

Then he is a *missionary* as well as a doctor, and the spiritual aspects of his work must be considered. He is in charge of a *mission* hospital, and while the evangelistic phase of the work may be in some cases under the care of a clerical missionary, still the doctor must arrange the work to conserve that phase of it, give some of his time to it, and see that his assistants are a part of it.

I presume that in many cases the history of a hospital assistant is something like this: The mission school furnishes the hospital with one or more young men or boys, who commence to assist in the work as soon as possible; at first simply multiplying the doctor's hands and feet. They are given books to study and gradually know more and do more in the work, their ultimate efficiency and success depending upon the time and care the doctor is able to give them, the character of the boys themselves, and the time they spend as assistants in the hospital. In some cases this results in the training of very valuable men, those who make efficient doctors and good mission helpers; in other cases failures, that are all the more disheartening because of the time and self-sacrifice given by the doctor to their training. Every medical missionary therefore must be interested in any attempt to work out a scheme for medical education in China.

The proposition which emanates from Shanghai states in its first paragraph that the effect of the proposed school shall be to give a thorough training to mission hospital assistants and to all who wish to practice medicine in

China, provided they are of a good moral character. That is, it is proposed to start a medical college with a full faculty and give a thorough course of instruction.

If a medical college is opened to the patronage of China certainly there should be a good, strong faculty, and a thorough course secured. We cannot ask men to spend their time and money simply to further our ideals. There must be a *quid pro quo*. I believe the time is not far distant when the Chinese government will establish a system of medical education. They are a people that give education the first place, and every student among them looks longingly on the practice of medicine, while every other person takes to physis as a duck takes to water. Dark as the day may seem, a new *régime* is surely coming for China, and among the old things that will pass away, the present system of inherited quackery will be one of the first to go. The government will undoubtedly pursue their present course in the schools already established and have the large part of instruction given in English or some other European language. If they think it necessary to use a European language in their naval and military college, scientific schools, and modern colleges of high grade, the teaching of medicine will be done in the same way. The coming doctor must have something more than the Chinese language will ever give him. The Chinese language will go a long way and serve a large part in his education, but it is inadequate and probably ever will be inadequate to make a first class medical man and enable him to keep in first class condition professionally.

If a first class college is started it involves the expenditure of more money than medical missionaries can contribute, or can be derived from tuition fees, or than missionary societies would be likely to appropriate to secular work outside their control. If special gifts from benevolent persons are secured there must be an organization of more permanence and responsibility than a committee of the Medical Missionary Association, to hold property and administer trust funds.

I am of the opinion that the Shanghai scheme is fatally lacking in several essential and practical features that make it impossible at the present time.

Now in regard to the Hankow proposal. This is practically the same plan as proposed several years ago in an article published in the JOURNAL (see December number, 1895).

Excepting some details of the plan as now proposed, I think it is more practical than the Shanghai proposal, and, while it is not ideal and is far from all we would wish, yet it is a plan that can be put into effect, and later lead to better things.

In regard to some details of the Hankow proposal I do not think that physics, botany, and zoology should be included in the medical course. These studies belong to an academic course and should be taken before a

professional course is commenced. An applicant for examination should present a certificate of graduation from a school of high grade, or pass a preliminary examination to make him eligible to take his examinations in a professional course.

I think article four needs alteration. I would make the time required five years instead of six. A graduate in an academic course should be able to do the course in that time. And why put in the requirement of twelve successful vaccinations? It seems a strange thing to specify such a simple and common procedure. Why not as well require the candidate to present evidence of having successfully pulled twelve teeth and given twelve enemas?

Then I do not think a student's time in the hospital should be so divided as to give six months to compounding drugs, nine months exclusively to surgical dressing, and—what is meant by nine months' "medical clerking" I am at a loss to know.

He should have all and more than the above mentioned time for compounding drugs, surgical dressing, care of patients as an interne, minor surgery, etc., but I would not allot the time as given.

The plan for examinations does not interfere with any plan for a general medical school, or with any schools already started, and should be a stimulus and help to all efforts in giving a medical education, while it will bring about uniformity in the work done in the various missions and hospitals and raise the standards and create an *esprit de corps* very valuable to the profession in China.

*Philander Smith Memorial Hospital, Nanking.*



## THE AMERICAN TROOPS IN CHINA.

By CHAS. LEWIS, *Surgeon U. S. Legation Guard, Peking.*

In furnishing this report to the JOURNAL, I have a dual reason in mind: in the first place, I think many of my colleagues in China, especially Americans, are anxious to know how our fellow-countrymen fared, who came to our relief, and how many laid down their lives in the struggle; and in the second place, I desire that we all may have the benefit of whatever lessons are to be learned from these statistics. I may say here that the following statistics refer only to the army, and do not include the navy and the marine service.

Our troops began to land in China, at Tong-ku, on July 9th, 1900, and proceeded to Tientsin by junk, where on July 13th two battalions of the



9th Infantry took part in the battle for the capture of Tientsin (native) city. In this battle they sustained a loss of nineteen killed, including their commander, Colonel Liscum, and sixty-six wounded, including four commissioned and eighteen non-commissioned officers. These wounded were transferred to the U. S. S. *Solace*, and I have no means of knowing in most of the cases how they fared from their wounds.

The third battalion of the 9th Infantry had not arrived from Taku in time to take part in the battle of Tientsin.

The 14th Infantry and 5th Artillery, Battery "F," arrived in time to proceed on the march to Peking. Both regiments and the battery were in action at the battle of Yang-tswen on August 6th, where we lost seven killed and fifty-nine wounded.

At Ma-tao, ninety-six men were left behind in quarters, on account of heat depression, on August 13th.

This same force with the addition of "M" troop of the 6th Cavalry took part in the engagement before Peking city walls, where they suffered a loss of six killed and thirty-one wounded. After the capture of the city our troops went into camp in the Temple of Agriculture. The 15th Infantry came too late to take part with the relief column, and remained encamped at Tientsin until they left China in November. The 6th Cavalry were encamped at Yangtswen, and here in Peking, where one squadron remained until this spring; the other squadron and the 14th Infantry leaving in November. "F" Battery also remained here in the Temple of Agriculture during the winter.

The following are statistics from August 1st, 1900, to April 30th, 1901:—

PER CENT. OF SICK AND WOUNDED BY MONTHS.

August, 1900, strength of command,	3891 ; non-effective,	9.7 %
September, " " " "	3818 " "	10.3 %
October, " " " "	4044 " "	7. %
November, " " " "	2396 " "	6.2 %
December, " " " "	1896 " "	5.7 %
January, 1901, " " " "	1853 " "	4.9 %
February, " " " "	1900 " "	4.8 %
March, " " " "	1898 " "	3.3 %
April, " " " "	1836 " "	2.7 %

Average for the nine (nine) months is 5.8 %.

From the above it will be seen that the highest per cent. of sickness was during September, when diarrhea was at its worst.

From the following table will be seen the prevailing diseases for each month from August, 1900, to April, 1901, inclusive.

## PREVAILING DISEASES FOR AUGUST, 1900.

Diarrhea,	No. of cases, 762; per centage of disability,	.185
Dysentery,	" " " 154 " " "	.039
Malarial Fever,	" " " 102 " " "	.026
Venereal Diseases,	" " " 54 " " "	.013
Typhoid Fever,	" " " 9 " " "	.002

## PREVAILING DISEASES FOR SEPTEMBER, 1900.

Diarrhea,	No. of cases, 763; percentage of disability,	.199
Dysentery,	" " " 111 " " "	.029
Malarial Fever,	" " " 113 " " "	.03
Venereal Diseases,	" " " 40 " " "	.01
Typhoid Fever,	" " " 22 " " "	.0055

## PREVAILING DISEASES FOR OCTOBER, 1900.

Diarrhea,	No. of cases, 237; percentage of disability,	.059
Malarial Fever,	" " " 174 " " "	.043
Venereal Diseases,	" " " 107 " " "	.026
Respiratory " "	" " " 102 " " "	.025
Typhoid Fever,	" " " 21 " " "	.0053

## PREVAILING DISEASES FOR NOVEMBER, 1900.

Malarial Fever,	No. of cases, 130; percentage of disability,	.054
Venereal Diseases,	" " " 111 " " "	.046
Respiratory " "	" " " 64 " " "	.027
Diarrhea,	" " " 50 " " "	.02
Typhoid Fever,	" " " 24 " " "	.0061

## PREVAILING DISEASES FOR DECEMBER, 1900.

Respiratory Diseases,	No. of cases, 128; percentage of disability,	.068
Malarial Fever,	" " " 75 " " "	.039
Venereal Diseases,	" " " 48 " " "	.025
Digestive " "	" " " 29 " " "	.015
Typhoid Fever,	" " " 4 " " "	.001

## PREVAILING DISEASES FOR JANUARY, 1901.

Venereal Diseases,	No. of cases, 67; percentage of disability,	.036
Respiratory " "	" " " 65 " " "	.035
Malarial Fever,	" " " 42 " " "	.023
Digestive Diseases,	" " " 17 " " "	.009

PREVAILING DISEASES FOR FEBRUARY, 1901.

Respiratory Diseases, No. of cases, 61; percentage of disability,	.032
Venereal           "       "       "       "       34       "       "       "	.018
Malarial Fever,       "       "       "       23       "       "       "	.012
Digestive Diseases,   "       "       "       11       "       "       "	.006

PREVAILING DISEASES FOR MARCH, 1901.

Respiratory Diseases, No. of cases, 38; percentage of disability,	.021
Venereal           "       "       "       "       32       "       "       "	.017
Malarial Fever,       "       "       "       20       "       "       "	.011
Digestive Diseases,   "       "       "       20       "       "       "	.011

PREVAILING DISEASES FOR APRIL, 1901.

Venereal Diseases, No. of cases, 49; percentage of disability,	.027
Malarial Fever,       "       "       "       16       "       "       "	.009
Respiratory Diseases, "       "       "       13       "       "       "	.007
Digestive           "       "       "       "       10       "       "       "	.005

The aggregate mortality of the expedition, exclusive of U. S. marines, and possibilities of fatalities among wounded transferred to hospital ships, is as follows, viz. :—

Killed in action,	33; percentage of total mortality	.317
Died of wounds,	19       "       "       "       "	.182
Pneumonia,	12       "       "       "       "	.115
Dysentery,	24       "       "       "       "	.238
Typhoid Fever,	2       "       "       "       "	.019
All other diseases,	14       "       "       "       "	.135
Total,	<hr/> 104	

From this table it will be seen that dysentery has ranked first among diseases in claiming its victims, but this must not be laid to China entirely, as the troops coming from Manila were very much debilitated, and no doubt a number of those who died here with dysentery, had the disease well fixed upon them before leaving the Philippines.

The two deaths from typhoid fever were from perforation, one being a walking typhoid.

During the month of September there were twelve deaths from dysentery. Of these I saw a good many in autopsy and in no case was there a sign of ulceration in the small bowel. Indeed there was no sign of inflammation in the ileum, even close to the ileocecal valve. But in most cases the whole of the large intestine was a mass of ulcerating surface. In most cases the ulceration had gone on so that in many patches nothing but the serous coat of the bowel remained, and in several cases perforation had taken place.

In October the deaths from dysentery dropped to four, and in November to two, disappearing entirely in December, when pneumonia appeared in a specially grave form. During December we had seven deaths from this disease, when the strength of the command was but 1,896. During January and February we had no deaths from pneumonia, but in March three men died, and in April one man died of pneumonia.

Had our men been in good condition as to their alimentary tracts when they came to China, pneumonia would probably head the list as a cause of death from disease.

The health of the command has been better here than in most posts at home, which goes to indicate that North China is healthful. The guard work has been heavy, but the men have kept well. Unhealthfulness among missionaries, especially among women in North China, may have a large mental element, due to isolation.

These men were exposed to the strongest sun's rays with only felt hats for head protection, and though about 100 were overcome by the heat and thirst for the time being, there were no permanent injuries from the heat. There is a general belief that one must not go out in the heat of the day without a helmet, at the risk of permanent injury. This experience explodes such a theory. The sick and wounded reports of July and August are made up in the main of reports of cases of "diarrhea" and "malarial fever," but the latter disappeared almost entirely after the troops had been in China for some time, and many of the cases of diarrhea became dysenteric. We have had almost no cases of malarial fever that have not had a history of having had the same in either Cuba or the Philippines. In cases of dysentery nothing but topical treatment has been of any avail.

We had but three cases of small-pox, all of which recovered. The entire command was vaccinated twice during the spring.

Among the venereal diseases, syphilis has been extremely common. The climate is averse to the use of *mercury*, salivation occurring upon the use of a very small quantity. It is better given with atropine.

*U. S. Legation, Peking, China.*

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### A PLEA FOR HYGIENE.

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By KATE C. WOODHULL, M.D.

Lord Palmerston is said to have acted rashly sometimes when Foreign Secretary of England, but he possessed some sound notions on sanitary questions. It was when Secretary of State, under Lord John Russell, that Lord Palmerston was written to by the Presbytery of Edinburgh, asking whether a national fast ought not to be appointed in consequence of the appearance of cholera.

Lord Palmerston gravely admonished the Presbytery that the maker of the universe had appointed certain laws of nature for the planet on which we live, and that the weal or woe of mankind depends on the observance of those—one of them connecting health with the absence of those noxious exhalations which proceed from overcrowded human beings, or from decomposing substances, whether animal or vegetable.

He therefore recommended that the purification of towns and cities should be more strenuously carried on. He said to them: "The causes and sources of contagion, if allowed to remain, will infallibly breed pestilence and be fruitful in death, in spite of all the prayers and fastings of a united but inactive nation."

The prevalence of plague among us has caused us seriously to consider the question, "What can we do to improve the conditions of living of our native Christians?" Already the dread disease has claimed for its victims some of our most valued native workers.

It is indeed very sad to see Chinese Christians living under the same unhealthful conditions as their heathen neighbors, when with a little effort they could greatly improve their surroundings if they understood the importance of it.

We have in our mind a vivid picture of a visit to one of our country stations a few years ago. As we came to the village where several of our Christians were living, the air resounded with "Kie-na, kie-na," "Have you brought *quinine* with you. We all have chills and fever." These families were living on a knoll, most favorable for drainage. But there was filth and stagnant water all about their doors. Not the least effort had been made in the direction of cleanliness. They were sallow, weak, and sick, and they could think of only one way of relief—to take *quinine*.

When we visited Pao-ting-fu those dear sisters, Miss Morrill and Miss Gould, who are now wearing the martyr's crown, were very busy with what they called their "real estate venture." They had purchased a cluster of small houses, opening on a court, and were draining and repairing to rent them to the native helpers, their personal teachers, etc., that they might have healthful homes.

We thought that an example which all missionaries might follow on a large or smaller scale.

Our native helpers have great difficulty in finding suitable places in which to live; we might perhaps do much for them in this way, but the better and more effective way would be to so saturate their minds with the importance of hygienic living that they would be as unwilling as we to live amid unhealthy surroundings.

Of course the best time and place for giving such instruction is in our schools. Now that we are training medical students, would it not be a good

plan to have in each of our boarding-schools one of these hospital graduates as house physician and teacher of anatomy, physiology and hygiene? It seems as if a good deal might be done in that way.

Another way that would seem to promise good results would be to try to interest the officers of our various localities in public hygiene. Most of the missionaries are on intimate terms with a few officials, and have opportunities to chat with them. These occasions might be improved to urge them to adopt measures to preserve the public health. This would be likely to appeal to them, as they well understand that their families share the dangers with the poorest.

The officers in Foochow have tried this summer to do something, but in their ignorance the measures they have adopted are of doubtful benefit. They have caused to be erected, at frequent intervals in the streets, brick receptacles for refuse. Men are expected to remove this. We have often seen these men removing a part of this, we have never seen one emptied, and the remainder, wet and dry, is left to ferment. What is removed is simply taken a little farther away and piled up to pollute the air. If the officers could be induced to build furnaces with high chimneys (or even without chimneys) and have the refuse collected and burned, it would do much to ensure a purer atmosphere.

When God instructed the children of Israel in ways of living, He did not think it unimportant to give minute instructions in regard to hygienic living. The divine voice instructed Moses carefully as to the methods of ensuring clean homes and surroundings. In carrying the gospel to the heathen we surely will do well to remember the instructions of our great guide book in matters pertaining to the health of the people whom we desire so much to benefit.

We doctors are so busy trying to heal the wounds and bruises already inflicted that perhaps we are in danger of forgetting our duty to take the initiative in this matter and urge upon all missionaries the importance of instructing and helping our native brothers and sisters to understand the importance of avoiding the causes of disease.

*American Board Mission, Foochow.*

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### CASE OF AN HERMAPHRODITE.

The following case of spurious hermaphroditism, reported to the JOURNAL from an interior city, seems of sufficient interest to find a place in our pages. The individual concerned was a young Chinese twenty-three years old and was a candidate for orders in the Roman Catholic Church. He was sent to the physician reporting the case, by the priest in charge, with the request

that a thorough examination be made, so that his mind might be set at rest in regard to the sex of the individual; it being very desirable that they should be perfectly assured before ordaining him that he was not a woman. On questioning him, before proceeding with the physical examination, it was ascertained that he had at times nocturnal emissions, that he had erections and that he suffered at times from lascivious thoughts when in the presence of women, but not with men. The general physiognomy was that of a man, though there was no sign of hair on the face. The breasts were well-developed and distinct glands could be felt beneath the skin.

The external genitals were strikingly like those of a female, except that the right labium was very large, much larger than its fellow on the left side, and contained a well-developed testicle, while on its left side was a fairly well-formed penis. Instead, however, of the urethra terminating at the meatus, which was distinct but not patulous, it terminated below the penis and between two rudimentary labia minora.

There was no vagina whatever, nor any womb, so far as could be made out by examination per rectum.

The hair on the pubes was abundant.

In view of the general physiognomy of the individual, the presence of at least one testicle, the occurrence of seminal emissions and distinct erections of his fairly well-formed penis, it was thought there could be no doubt that he was a male, and such a report was made to the priest.

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## Medical and Surgical Progress.

### Medical.

Under the charge of Robert T. Booth, M.B., B.Ch., R.U.I.

#### THE ORIGIN OF GASTRIC ULCER.

This interesting subject is ably dealt with by Dr. Gordon, M.D., M.R.C.S., in the *Bristol Medical and Chirurgical Journal* for June, which has just come to hand. It is a curious fact, he says, that with all our learning we have learnt so little of the causes of gastric ulcer. He then refers to the theories in vogue at present and states them as follows:—

- (1). The theory of embolism of a gastric artery.
- (2). The theory of thrombosis of a gastric artery.
- (3). The theory of thrombosis of a gastric vein.
- (4). The theory of spasm of a gastric artery.
- (5). The theory of hæmorrhage into the gastric wall.
- (6). The theory of injury to the gastric wall from within
  - (a) by scalding material,
  - (b) by corrosive poisons,
  - (c) by sharp objects swallowed.
- (7). The theory of injury to the gastric wall from without
  - (a) by tumors, aneurysms, etc.
  - (b) by mechanical pressure exerted from without the body.
- (8). The theory of neurotrophic lesion.
- (9). The theory of autodigestion from hyperacidity.
- (10). The theory of bacterial necrosis.

And finally the theory that all these are true, and what one will not account for another will. He then proceeds to consider these theories seriatim and points out that when Rokitansky stated that acute perforating gastric ulcers were not due to inflammation, Virchow based his theory of embolism of gastric artery on this fact and

secondly on the position and form of the ulcer. It has been proved experimentally by Panum and Cohnheim that embolism of a gastric artery can cause an ulcer, but Gordon then asks the question, "Does it cause the disease as we find it in practice?"

"Embolism," he says "may be considered as of two sorts: (a) masses of microbes circulating in the blood, and (b) vegetations or clots set loose from heart or blood vessels. With regard to (a) we plainly have not such to deal with in ordinary gastric ulcer. Microbic emboli have only been met with in cases of anthrax and other infective disorders. It is in respect of (b) that we must carefully consider this theory. If the theory is correct we ought to find that when a source for emboli is present, gastric ulcer (a common disease, we must remember) should not be rare, and when gastric ulcer is present we ought not seldom to discover a source for the emboli. What are the facts? When many emboli are being thrown off from the heart valves and embolism is appearing in various organs, the gastric arteries almost always escape obstruction. Out of seventy-one cases of ulcerative endocarditis producing emboli in viscera, recorded by Dr. Fenwick at the London Hospital, not one showed embolism in the stomach. Again experimentally emboli have been thrown in large numbers into the circulation, yet only three per cent. to five per cent., or less, have found their way into the gastric arteries.

The only cases in which Fenwick has seen marked embolism of these arteries were very rare cases of disease (aneurysm) of the neighbouring large vessels. Again it is a familiar fact that the vast majority of patients who present themselves with gastric



ulcers, have no disease either of the heart or vessels capable of producing emboli." He concludes from this evidence that no reasonable person can contend that gastric ulcer is the result of embolism.

He then proceeds to deal with the other theories and shows that there are two important facts against 2, viz., (1) young women, in whom perforating gastric ulcer is most common, are far below the age at which atheroma occurs; (2) syphilis, in the country districts at least, cannot be the cause in the vast majority of cases.

Fenwick's experiments have shown that ligation of small gastric veins does not lead to ulceration. This is strongly against 3. With reference to 4 he says that there is no reasonable evidence in its favor.

Pye-Smith denies 5 on the ground that if such were its origin it ought to be frequent in those who suffer from portal obstruction, as a result of disease of heart or liver. "Hæmorrhagic erosions," he says, "are common in cases of this kind, but not gastric ulcer." 6 and 7 are possible, though not probable causes. There is no evidence in favor of 8. With regard to 9 he says that he is not aware that there is any evidence to prove that hyperacidity precedes the ulcer. Bacterial necrosis is a form of "bacterial infection which is unassociated with the signs of active inflammation." Very little is known as yet about this form of microbic injury, and Dreschfield says "this view may as yet be looked upon as purely hypothetical."

Finally the theory that all these are true, he thinks we shall be dealing liberally with them all in suggesting that taken together they may perhaps account for five per cent. of the cases.

"What then," he says, "is the origin of the remaining ninety-five per cent.?" If gastric ulcer were an entirely new disease, we would immediately think of inflammation and microbic invasion. The reason we don't turn to these explanations is that

we have been brought up to believe that inflammation has nothing whatever to do with the development of acute gastric ulcer, and that in chronic gastric ulcer the evident inflammation is not primary and secondary. If acute gastric ulcer is not inflammatory, how does it form adhesions? To argue that the inflammation that causes the adhesions is secondary is to beg the question. In very rare instances gastric ulcers have been found to be tubercular. Were these in their origin also non-inflammatory? The evidence of the operation table is against that of the post mortem room.

In forty-three cases of perforated gastric ulcer, at the time of operation, induration was noticed in forty. It can hardly be assumed that these forty were chronic and the remaining three the only specimens of acute gastric ulcer in the list.

Again quoting from Dreschfield: "Jaworski and Korczynski find that the mucous membrane of the stomach in all cases of gastric ulcer shows changes which become more evident on microscopic examination. These changes consist in cell infiltration between the several layers of the coats of the stomach and marked inflammatory changes in the walls of the blood vessels (both veins and arteries) and in the neighbourhood of the nerves also. According to these authors the *inflammatory changes are constantly found in cases of gastric ulcers, and are looked on by them as primary.*"

Gordon then says: "As matters stand, it may at least be considered permissible to set aside entirely all preconceived ideas of gastric ulcer and to ask ourselves what we might expect to happen if a culture of some common microbe, such as staphylococcus aureus, were rubbed into the mucous membrane of the stomach."

He then goes on to show that there is an almost constant swallowing of microbes, states what is almost certain to be the effect thereof. (In connection with which I may call attention of readers to the April number of the CHINA

MEDICAL MISSIONARY JOURNAL, Medical Progress section, where the mouth as a cause of stomach disease is dealt with.) He assumes that it is possible for a culture of some microbe to be rubbed on the stomach wall, and then according to the virulence of the micro-organism, and the position of the point of entry, we might have one of several results.

(a). "If the micro-organisms were virulent, and the point of entry such that the gastric juice did not speedily reach it, it is conceivable that a focus of acute inflammation might develop in the thickness of the gastric wall. That wall is not a very thick one, and it would not require very long for serious injury to have been done to a circular area of the size of a three-penny piece extending through the whole thickness of the coats, but with rather a greater diameter on the side of entry. In most cases this area of acute inflammation would be surrounded by a zone of red and swollen tissue just as a boil is, and, in the centre, necrosis would be tending to begin. Now conceive the effect on this patch of inflammation of an access of gastric juice. Would not the deeply injured area be simply digested out, leaving a clean-cut circular 'punched out' opening surrounded by a zone of swollen tissue, more or less infiltrated with leucocytes, close to the margin of solution?" This would, he says, correspond to the condition of things seen by operators.

(b). "If the micro-organisms were less virulent, only a slight erosion might take place.

(c). "Between these conditions all variations might occur.

(d). "Or the organisms might have spread deeper before the gastric juice invaded the superficial layers, and the slow process of ulceration and digestion of damaged tissue might proceed indefinitely, together with irritation of the exposed surface, both mechanically by food and chemically by acid juice." This would, in his opinion, adequately account for the chronic

"funnel-shaped" ulcer. There is nothing inherently improbable or foreign to pathological experience in any of these conceptions. An hypothesis of bacterial origin has, on the contrary, this in its favor, that for a common disease it furnished a common cause. With such an hypothesis, however, we should expect other peculiarities to obtain, e.g.,

(a). We should expect that that part of the stomach where the gastric juice is alkaline at the moment of its secretion would be the part which would be the least protected from invasion by micro-organisms, and therefore we should expect the pyloric region of the stomach would be a very common situation for gastric ulcer. This is so. Statistics show that seventy-five per cent. of the ulcers are found there.

(b). We should expect that the part of the stomach which, being most fixed and uppermost, serves to sling the stomach (i.e., lesser curvature) would suffer more than those parts which are continually bathed in acid. It is shown that the neighbourhood of the lesser curvature suffers far more than the greater, whilst ulcer of the fundus is very uncommon.

(c). We should expect that the parts of this upper portion most remote from the effects of the juice, would be the seat of election for perforating ulcers, i.e., that they would be commonest near the cardiac orifice and more frequently on the anterior surface, inasmuch as a considerable portion of the twenty-four hours is spent in a recumbent posture. This is so. Blinton having found that seventy per cent. of all perforations were on the anterior surface of the stomach. Again in a list of operation cases collected by Dr. Gordon himself, the majority of perforating ulcers were at the cardiac end.

(d). We should expect that if an open ulcer existed on one wall, a second would sometimes form on the opposite wall where the two walls occasionally came in contact, and

rubbed on one another. That this is so has again and again been noticed, and there was always some difficulty of explanation with the old theories.

(e). We should expect that if one of these two ulcers perforated, in all probability it would be the anterior one which would go first. It has been shown that sometimes both perforate, but that when one does, it is *always* the anterior.

(f). We should expect the typical progressive chronic ulcer to be most frequent on the posterior wall. According to Fenwick's table this is seen to be the case, forty-six to seven.

(g). We should expect to find on microscopic examination of the edges of an ulcer evidence of inflammation, less in acute and more in chronic; and certainly we should expect some evidence of microbes in the tissues, microbes growing amongst inflammatory products a little way from the edge, or enclosed in phagocytes in the neighbourhood of the lesion."

With regard to this last point Dr. Gordon speaks less certainly, as he says it is not wise to base too much proof on a single specimen. Still taking it for what it is worth, and it is worth something, this specimen, one which he prepared himself, showed close to the margin of the perforation abundant evidence of acute inflammation, abundant migrated leucocytes. About one-eighth of an inch from the margin abundant cocci were seen. About half an inch from the edge there was very little leucocytic infiltration, but chains of large cells, crammed with cocci, were seen apparently travelling back from the inflammatory focus along the lymph paths of the tissues.

It seems to me that Dr. Gordon, although he may not definitely have proved his case, has at any rate thrown considerable light on many dark points connected with this interesting subject. He has also justified a further research along the

lines marked out, and we cannot but feel confident that with the help that modern bacteriology affords, something definite as regards the causation of this common disease will soon be forthcoming.

#### TREATMENT OF LEPROSY—RECOVERY.

With so many vaunted cures for this loathsome disease, it is probable that most of us have at one time or another tried the efficacy of one, two, or even more of them. *Curjun oil*, *chaulmoogra oil*, *Unna's chrysarobin*, *salicylic*, and *creasote plaster*, *Unna's pyrogallic ointment*, *salol*, *salicylate of soda*, have all been brought forward at one time or another and accredited with almost specific properties. However, disappointment has only resulted in the majority of cases, even when they have been constantly under supervision.

It is encouraging then when we read of two cases of cure, and these cases reported by no less an authority than George Thin. Writing in the *B. M. J.* for May 4th, he reports two cases of nerve leprosy, the cure of which he ascribes to drugs.

In the beginning of his article he points out that the chances of cure in nerve leprosy are considerably more probable than in tubercular leprosy. His two cases were of the former class. The first a boy of eleven years of age, born in the West Indies and brought to England when he was four. Shortly afterwards he developed what was diagnosed leprosy by Erasmus Wilson. When he came under the care of Dr. Thin, the condition was fairly well advanced, both as regards anæsthesia and deformity. "The boy had the physique of a lad of seven or eight instead of eleven; the limbs being small and shrunken, and his appearance that of an atrophied and wasted creature." The main line of treatment followed was the administration of *chaulmoogra oil*, both internally and externally. In three months' time he had considerably improved; was taking twenty-

one drop of the oil without discomfort. He was seen again on two occasions. The third time was about eight months after his first visit. He was then much better, but showed the presence of bullæ on the wrist, which left raw surfaces. These, however, had begun to heal over under *boric acid* ointment at the time of the fourth visit, four days after. The patient then disappeared and was not seen for thirteen years. He then returned, identifying himself with the leper boy of thirteen years before. He had been in perfect health for a number of years, and said that the remedies that had been prescribed for him had cured him. "On examination I found that his trunk and limbs showed hard muscular development without much fat. There was no anæsthesia in the skin of the face, the muscular development of which was perfect; his eyes looked healthy and he had normal eyebrows. The only evidence of his having had leprosy was found in the mutilation of the hands and feet and in the incomplete restoration of sensation on some parts of the limbs." His mother reported the following notes of treatment: "We followed your instructions for a year; he began by taking *chaulmoogra oil*, increased the doses from three to seven drops. . . . *Chaulmoogra oil* was well rubbed all over his body at night. In the morning he had a tepid bath, in which *boracic acid* was dissolved. He was much in the open air, and slept with his window open, both summer and winter, and took good nourishing food. After about a year his system became so impregnated with *chaulmoogra* that his linen, even after being washed, smelt of it, as also did his skin and hair. He had used the oil for several months before the smell became perceptible to those about him. It at last became so distasteful and repugnant to him that he refused to take any more of it, and we did not insist on his doing so, as he was so much better in every way. From that time till now he has steadily improved in health and

strength. He twice began the oil again, but did not continue it for any length of time."

Dr. Thin very rightly, I think, attributes this cure to the use of the *chaulmoogra oil*. His second case refers to another of the well-known means of cure. Dr. Thin says: "I put this case on record chiefly because I was a witness to the effects of locally applied *pyrogallie acid*, which had been recommended in the treatment of leprosy by Dr. Unna shortly before the patient was brought to me." The treatment of this case consisted in the long continued application of *pyrogallie ointment* to the affected part and the regular exhibition of *gurjun oil* internally, *arsenic* being given intermittently. When the patient came "the appearance was characteristic of nerve leprosy in the early stage." There was a slightly discolored patch on the face. The border was raised, the centre was completely anæsthetic, but the anæsthesia was only partial at the periphery. There was one other patch about the size of a three-penny piece over the spine between the shoulders. Treatment was as follows: "five per cent. *pyrogallie ointment* to be rubbed into both places twice daily, a drachm of *gurjun oil* to be taken twice a day and two minims of *Fowler's solution* twice daily." The strength of the ointment was increased to seven and a half per cent. after a week. This treatment was entirely successful with the patch on the back, which disappeared in less than a month. The patch on the face became gradually less anæsthetic from month to month, the improvement, although not so great as at first, being always progressive. About twelve months after he was first seen some anæsthetic patches appeared on the thigh and leg, but these quickly cleared under the *pyrogallie ointment*. The use of the above drugs, with the exception of the *arsenic*, which had to be discontinued, was kept up for over two years under observation. After that the patient

was not seen for over two years and then it was found that the patch on the face had disappeared, that sensation of the part had completely returned. The question raised by this case is how much of the improvement was due to the *gurjun* oil and how much was the *pyrogallic ointment* responsible for? This is of the opinion that in this instance the *pyrogallic ointment* eradicated the small recent patches of anæsthetic leprosy. The *pyrogallic acid* probably kills the bacilli in the skin lesion. The patient was kept under observation for some years after and made a perfect recovery.

#### NASAL TUBERCULOSIS.

In the *B. M. J.* for May 25th, notice is drawn to this affection. This condition was first noted by Morgagni, but the first primary cases were published by Riedel. Renshaw writing in the *Journal Pathological and Bacteriological* for February expresses the opinion that the condition is not so rare as is generally supposed, and that if looked for many obscure nasal affections would prove to be of this nature. Cases of strumous glands in which no primary cause is to be found, may also in some cases be due to primary invasion of the nose. In a series of experiments on guinea pigs he was able to show that the nasal mucous membrane may be infected by simply introducing sputum, while leaving the membrane intact. In these experiments he used eight animals, all of which showed signs of irritation, and seven definite tuberculous lesions. It is interesting and important to note that with regard to extension from this primary focus, infection of the meninges did not occur, even in extensive ulceration in the superior fossa, nor was direct infection of the respiratory passages found. In every case the track of invasion was by the lymphatics to the glands, and from these to the viscera. The further the lesion is from the

entrance to the nostril the more rapid it seems is the course of the disease and the earlier the invasion of the other organs.

#### AGGLUTINATION IN THE BLOOD OF MALARIAL PATIENTS.

Two competent observers early in the year pointed out that in the course of some researches on malarial blood in man they found that it possessed agglutinative properties. They found that the blood of malarial patients had the power of agglutinating the blood of normal or of malarial subjects. This power was present in the incubative period, reached its maximum during the period of pyrexia and decreased and disappeared when there no longer existed fever and parasites in the blood. If the blood in malaria is diluted with a physiological solution of *quinine*, the agglutinating power is destroyed; in non-malarial blood the *quinine* does not seem to have this property.

The same observers, Lo Monacho and Panichi, have also been studying the effect of *quinine* on the malarial parasite "*in vitro*," and have found that the degree of resistance in the first stage of development is very high throughout the whole course of injection (corresponding to an equivalent of twelve to fifteen grams of *quinine* in the circulation). In the second stage (with small pigment masses at the periphery or at the centre) a variable degree of resistance is offered, high during apyrexia and so low during the febrile attack as to be easily overcome by medicinal doses of *quinine*. In connection with this fact they point out that clinically the early doses of *quinine* check the development of the parasites in the second stage and prevent their progress into the third or segmentation stage. Repeated doses of *quinine* kill those parasites which, owing to their great resistive power, were able to escape the effect of the initial dose. They further point out that *quinine*

seems to act directly on the parasite, hindering its further development either by killing it whilst it is attached to the corpuscle (when the quantity of the alkaloid is strong) or (when the solution is weaker) by setting the parasite free and letting it fall into the plasma, where it becomes swallowed up by phagocytes. Probably antiparasitic substances are formed in the system naturally, and do their part in getting rid of the parasites, for many people recover without the aid of the drug.

If these observers are as correct in their conclusions as they seem to be in their experiments, it throws some doubt on the present theories.

From what they say it seems that the quinine does not attack the parasite while it is free in the plasma, before it has attached itself to the corpuscle, and only in the latter case when *quinine* is in strong solution. Most of the teaching at the present day has been to the effect that *quinine* is most efficacious when the spores are free in the plasma, just after sporulation, and that the drug should be given at such time as will enable it to exercise its most powerful effects at that time.

#### UROTOPIN ; DANGER IN ITS USE.

In the *B. M. J.* for June 15th, 1901, there is an interesting article calling attention to the fact that hæmaturia has followed the use of this drug. This is very important, for it has been vaunted as a very useful drug in both preventative and curative treatment of urinary trouble. It has been recommended in typhoid fever to prevent urinary complications, and also to prevent infection of other people by the urine. I have used it with success myself to prevent the ill effects of long continued use of a silver catheter, which had to be tied in, in a case of traumatic rupture of urethra.

Up till quite recently no serious objections were lodged against the use of this drug. It is true that attention

had been drawn to the fact that if the urine were allowed to get concentrated, some urethral pain might ensue. And Mogli reports a burning and a pricking sensation in the bladder; increased strangury and appearance of red blood corpuscles in the urine following the use of the drug in cases of cystitis of gonorrhœal origin. But he employed much larger doses than usual. W. Langdon Brown, in the article referred to above, records two cases of hæmaturia following the use of ten grains of *urotropin* three times a day. These cases were typhoid, and in both the drug was used. Some days after, difficulty of micturition, followed by smoky urine, took place. This stopped as soon as the *urotropin* was discontinued. Dr. Brown says: "The occurrence of hæmaturia in two cases admitted on successive days after *urotropin* had been given for eight days, and its rapid subsidence after the drug was stopped, is too striking to be a mere coincidence.

Hæmaturia resulting from nephritis in enteric fever, is not unknown, but in such cases *urotropin* seems to be beneficial. In my cases the bladder would seem to be the source of hæmorrhage." In the *B. M. J.*, June 29th, there are two more cases of hæmaturia reported, and also one case of albuminuria, which all ceased after the stoppage of the drug.

These instances show us that there is a certain amount of risk in the use of this otherwise very useful drug. But, as I said above, in the one case in which I used it with good effect for some two months, there was not any sign of hæmaturia or albuminuria.

#### TRIONAL AND SULPHONAL.

While discussing dangers in the use of certain drugs, it will be well not to pass over the well-known hypnotics—*trional* and *sulphonal*—which most of us use at some time or another, without any serious consequences. How-

ever it has not been the lot of others to have this uninteresting experience with these drugs, so we frequently find in the different journals references to some ill effect. In the *American Journal of the Medical Science*, April, 1901, a case of *trional* poisoning is recorded. In this case there was neuritis and hæmatoporphyrinuria. The case was a lady of fifty who had been accustomed to the constant use of the drug to prevent insomnia. In two months she had taken about thirty fifteen-grain doses of the drug. She was then seized with acute gastro-enteric inflammation. These symptoms continued for some five days, during which the *trional* was discontinued and *morphine* administered. She then passed dark red urine, containing a trace of albumen. One day twelve ounces of black urine was voided. No blood was present, but the spectrum showed the presence of hæmatoporphyrin. The pulse became intermittent and an apex murmur was heard. A few days later there was tingling in both arms, and the knee-jerks were absent. There was pain in the left elbow, and the legs were weak. Tactile and thermic sensations were diminished, but not absent. Paresis appeared in the extensor muscles of the left arm and in the leg. R.D. was obtained. The patient slowly and gradually recovered from these symptoms, and the heart condition also cleared up. The recorder of the above case considers that the *trional* is to blame for these symptoms.

It is well known that administration of *sulphonal* has been followed by hæmatoporphyrinuria. In the June 15th *B. M. J.* there is a fatal case recorded. This case, also one of insomnia originally, had been in the habit of treating himself with hypnotics, principally *sulphonal*. He was

seized with gastric symptoms, for which he sought advice. He became delirious, and gradually passed into a state of delirium tremens. The gastritis passed off, and in a few days he was able to take food by the mouth. A few days after onset the urine was noticed to have a peculiar odour, at one time like *chlorodyne* and at another it smelt like celery, and had the appearance of port wine. There was no albumen nor blood present. Spectroscope showed the bands of hæmatoporphyrin. He went from bad to worse, became tremulous, restless, and violent. General paresis followed. Epileptic convulsions occurred some four days before death and at short intervals until the end.

There have been several theories as to the nature of the cause of these serious conditions. In the *sulphonal* cases the symptoms are said not to depend so much on the direct action of the *sulphonal* itself as on chemical changes, almost certainly alimentary in the first place, and probably hepatic, of which the *sulphonal* has been the exciting cause. The similarity in the chemical constitution of these two drugs favors the view that *trional* acts in a similar manner. However, others have said that the symptoms are due to some irritation produced in the kidneys, whether by the *sulphonal* itself or as the result of changes produced elsewhere, in the liver, for example, they do not state. Others again ascribe the symptoms to changes produced in the central nervous system. As regards the neuritis in these cases, it is well not to forget that the increased exhibition of the coal-tar products within the last few years, has apparently been followed by a relative increase in the number of cases showing neuritic symptoms.



## Surgical.

Under the charge of Sydney R. Hodge, M.R.C.S., L.R.C.P.

## TRIGEMINAL NEURALGIA.

In the June No. of the *Annals of Surgery* there appear two articles on the pathology of this affection and on the operative technique for removal of the gasserian ganglion. The summing up of the former question is as follows: "It is quite evident that trigeminal neuralgia is not a definite disease, but merely the symptoms of various processes affecting the fifth nerve anywhere in its course from the ganglion to its peripheral termination. It is extremely probable that no disease of the nerve-cells *per se* exists as a primary parenchymatous affection. In the present state of our knowledge we are justified in assuming two main divisions of trigeminal neuralgic affections. First, and the more common, is a neuritis beginning in the terminal divisions of the fifth nerve and having a tendency to ascend to the ganglion. Second, an interstitial inflammation, chronic and progressive, of the ganglion body itself. . . . A third division is possible, and there have been two cases reported, that is, a central neuralgia or neuritis affecting the sensory root as it leaves the ganglion on its way to the pons." The etiology of the affection includes trauma, new growths, mechanical influences and toxæmias. We must look to future pathological study to help us, in conjunction with improved clinical knowledge, to tell what portion of the nerve is affected—if the ganglion, then removal of that is indicated, if some peripheral branch, then a peripheral operation is the one to choose.

Excision of the gasserian ganglion has only been practised of recent years, and the indications for the operation have been laid down to be (1) the involvement of more than one branch of the nerve, (2) the presence of pain in an area which receives its nerve near the latter's point of exit

from the skull, (3) paroxysms which are not the expression of constitutional or cerebral disease, (4) the failure of all other therapeutic measures. . . . The most usual route to reach the nerve, and the one which is the most direct way to the ganglion, is to cut an opening through the roof of the zygomatic fossa. There are, however, two great objections to this method: (1) that so many vessels and other important structures are encountered and (2) that it is almost impossible to completely expose the ganglion and remove it intact in this way. The high temporal operation of Krause, in which the cranium is entered from the side instead of from the front, has as its chief drawback frequent and troublesome hæmorrhage from the middle meningeal artery. The low temporal operation of Cushing is said to have all the advantages, without any of the difficulties, of the older operations. In this proceeding the main object is to make an opening so low in the temporal fossa that the removal of the ganglion can be accomplished without the danger of injury to the middle meningeal, thus rendering preliminary ligation of the carotid unnecessary. A horse-shoe incision is made, the base of it resting on the zygoma and its highest limit but little above the helix of the ear. The zygoma is chiselled off at both ends, retracted downwards with the soft tissues and the lower portion of the temporal fossa opened with a chisel and rongeur forceps. The middle meningeal artery can now be seen crossing the opening and can easily be followed to the foramen spinosum and injury of it avoided. The operation is a difficult one, and takes some three hours to perform, even in experienced hands. Profuse hæmorrhage is one of the most difficult complications of the operation, but occasionally even a worse condition is met with. In one case



"on uncovering the ganglion the meninges were torn, cerebro-spinal fluid deluged the field, profuse hæmorrhage commenced, particles of brain matter were lost, and pulse, as well as respiration, stopped for a time." Should by any mischance the middle meningeal artery be torn, there are several ways of meeting the difficulty. One may leave a silver probe in the foramen spinosum, as Friedrich did, or plug the hole with catgut, or stuff the opening with *iodoform gauze* and allow the wound to heal over it.

The mortality of the operation is still high, and it is not one to be undertaken lightly. Even in cases that end favourably there are a number of undesirable results which not unfrequently follow. Among these may be mentioned: temporary paralysis of the muscles supplied by the motor-oculi and abducens nerves, insensibility of the cornea and permanent decrease in the secretion of tears leading to more or less severe keratitis; atrophy of the optic nerve has even resulted, and sometimes "there is an unusual limitation of the extent to which the mouth can be opened, as a result of excessive contraction of the scar which is necessarily produced in the substance of the Masseter and temporal muscles." As a matter of course the division of the muscles of mastication, which is unavoidable in the temporal operation, leads to unilateral loss of function," but this is soon compensated for by the other side of the mouth.

#### CRANIAL DEPRESSION IN INFANTS.

Depressions of the skull in newborn infants are not so very uncommon, but very little attention has been bestowed on the subject. A fair proportion of them, if left alone, get all right, but some remain and produce serious symptoms. They are generally of one of two forms, either furrow-shaped, or spoon-shaped; the latter being the more serious. It is generally

supposed that forceps are responsible for these accidents, but this is more than doubtful. Furrow-shaped depressions may occasionally be caused, and even these are mostly due to pressure of the head against some part of the parturient canal and not to the forceps, but spoon-shaped depressions, which almost always occur in the upper part of the vault, can scarcely be due to instrumental delivery. As to the symptoms of this affection, when the depression remains permanent. In some cases there are no disturbances, although occasionally there may be minor nervous storms. "In another class of cases, although the child lives for days, weeks, or even months, there are marked local and general disturbances. Such cases usually terminate fatally. The symptoms vary. In some there are nervous phenomena, such as twitchings, convulsions, or paralysis, when there is no difficulty in attributing them to the depressions. In other cases, however, nervous symptoms are absent, or only appear towards the end, and there are only general symptoms—fretfulness, disinclination to take the breast, etc. There is yet another group of cases in which the child is born dead, or so deeply asphyxiated that if the indentation is not immediately relieved death results. The condition is fully dealt with and cases given by Dr. J. M. Munro Kerr in the *B. M. J.* for January 19th. Two methods of procedure are applicable in dealing with these cases. In perhaps the majority of cases no operative interference is needed, firm antero-posterior compression of the head sufficing to cause the depressed bone to spring out, when all symptoms are rapidly relieved. Some cases that resist this treatment will yield to another method of compression, as in a case related by the author. "When the head was grasped obliquely, applying one hand over the frontal bone to the right and the other over the occipital to the left, with firm compression, the indentation gradually

disappeared." When these methods fail recourse must be had to surgical measures, the simplest of which is the one advocated by Boissard. An incision is made through the scalp over the coronal suture and a smaller one through the suture itself; a sound is then passed under the skull between it and the dura mater and the depressed bone raised by pressure from within. In one or two published cases it was found that whilst the bone could be easily elevated it could not be retained so, but speedily went back to its depressed position. In these cases the depressed area of bone was removed, the pericranium being raised with the scalp and replaced with it, the dura mater being kept intact.

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#### EFFUSION INTO KNEE JOINTS IN CONJUNCTION WITH MENSTRUATION.

In a paper in the *Lancet* for February 23rd, Mr. W. H. Bennett calls attention to this little known, though not uncommon, malady. It occurs mostly at puberty and the time of the menopause.

Both knees are usually involved, though the right more so than the left. The effusion is perfectly painless and comes on insiduously. Some injury, slight in character, generally calls attention to the condition and is blamed as the cause, though it has nothing to do with the condition which has been in existence, though unnoticed for some time. "Traumatic synovitis is naturally diagnosed and, being apparently very chronic and the subjects being delicate, is sometimes mistaken for tuberculosis. An error in diagnosis can usually be avoided by noticing the character of the swelling, the existence of effusion on both sides (that on the uninjured side being painless and without heat) and the coincidence of marked menstrual or uterine trouble." Prognosis is good if the underlying condition can be removed.

#### ENLARGEMENT OF THE INGUINAL GLANDS IN VISCERAL CANCER.

It is a strange, but true, fact, the well known anatomical distribution of the lymph channels notwithstanding, that enlargement of the supra-clavicular glands has occupied more attention clinically than those of the inguinal region in cancer of the viscera, and yet such inguinal enlargement may be the only external sign of a visceral malignant growth. It has, moreover, been more than once insisted on that, in abdominal cancer, the inguinal glands show changes before the supra-clavicular ones, and indeed what anatomist would have expected any otherwise? "Of the various parts of alimentary canal, inguinal enlargement is most often observed in cancer of the stomach. It has been found in primary cancer of the liver, gall, bladder, and pancreas, but not of the kidney, spleen or suprarenal capsule. Inguinal enlargement may again be associated with cancer of the œsophagus or lung, but not, so far as is known, with cancer of the pleura or heart." The greater the malignancy of the growth, the earlier is the involvement of the glands, and "when the enlargement of the glands is the first, or an early sign of cancer, life will last only a few months."

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#### THE INDICATION OF THORACIC PAIN.

Various forms of thoracic pain are well known clinically, e.g., severe pain between the shoulders in certain forms of indigestion, the shoulder tip pain of liver trouble, etc., but "in grave cases in which the entire peritoneum is affected and the symptoms are puzzling, enquiry as to thoracic pain may yield information of great value." Such information may determine the site of an exploratory incision. "In certain cases of perforation of the stomach the pain may be referred to either shoulder, the interscapular region, or a little

lower, immediately over the vertebral column. It is distinct from the severe pain situated at the umbilicus, in the lower abdomen or in the iliac fossæ. Enquiry is all the more necessary, as the severity of the abdominal pain masks any thoracic pain. Such thoracic pain may also suggest cholecystitis, but pain over the lower dorsal region of the spine is nearly always connected with ulcer of the stomach. In such cases a supra-umbilical incision is required."

#### ETHER COMPRESSES IN STRANGULATED HERNIA.

An ice bag, *morphia*, and elevation of the foot of the bed is an old and successful aid in reducing herniæ, which has probably been employed by all of us. Dr. C. Fiessinger now proposes the employment of other compresses for the same purpose. He very rightly says: "Ice is not always at hand, and *ether* appears to be far more powerful because of the greater cold produced—several degrees below zero. Ice often, *ether* seldom fails; *ether* ought to be used during the first thirty-six hours; after that time there is danger of the bowel

being gangrenous." In most cases from ten to fifteen minutes is sufficiently long to secure reduction, but in a few severe cases the compresses may have to be kept on much longer; in one case the application was kept up for two hours and nine ounces of *ether* used.

#### STERILISING THE CLINICAL THERMOMETER.

Dr. W. H. Dyer makes the following useful suggestion for the sterilisation of clinical thermometers: "A few drops of a forty per cent. solution of *formaldehyde* on the cotton in the bottom of the thermometer case afford a most effective and simple method of sterilising the thermometer. The gas is steadily liberated from the solution *formaldehyde*, and the thermometer case, being nearly air tight, the escape of the gas and evaporation of the liquid is almost nil. In this way the thermometer is constantly subjected to the germicidal action of the gas. Before placing it in a patient's mouth it should be rinsed in water and wiped dry, as *formaldehyde* is irritating to mucous membrane.

### Gynecology and Obstetrics.

Under the charge of Elizabeth Reifsnyder, M.D.

In the *American Journal of Obstetrics* for February of this year is recorded the paper of Dr. Malcom McLean, as read before the New York Obstetrical Society on "A Plea for the Recognition of some of the Factors in the Mechanism of Labor."

First, he observed, that in parturition performed under normal conditions, there was a marked change in all structures involved in the function. A softening and relaxation which should be a precursor to the mechanical stretching the tissues must undergo. Every labor which is precipitated without the change in-

volves difficulties and dangers which would otherwise be absent. The changes in the presenting head of the child should receive some attention, as the relative size of the head will depend somewhat upon the alteration in its shape.

An arrested head, with increasing scalp tumor, must not be mistaken for the moving head itself. The presence of the liquor amnii is of great importance through the whole first stage, and should be preserved, if possible, until dilatation is complete. When dilatation is accomplished, and the membranes draw flat and stiff

across the uterine mouth with every pain, instead of bag-like to the point of rupture, we may with propriety assist by rupturing the sac.

Uterine contractions are of two kinds: first, the mild, insensible, tonic contraction which adjusts the organ to its contents; and, second, the intermittent, rhythmic contraction which operates in dilating and emptying the organ. All excitement, mental or physical, which interferes with regular contractions, puts so much difficulty in the way.

The impropriety of using ergot for stimulating a laboring uterus will be apparent if we remember that this drug causes tonic contraction to take the place of rhythmic contraction or relaxation. The obstetric canal should be unobstructed by bladder or rectum, hence the importance of emptying these before the engagement of the child.

In all operations with the hand *in utero* properly performed, the manipulations should be done within the amniotic sac, and then, when the placenta and membranes shall have been expelled, any contaminating matter introduced by the hand will have been carried away completely without having come in contact with the vulnerable uterine structure.

The expulsion of the placenta should be secured before the tonic uterine contraction sets in and such attention given the patient as will secure firm closure of the uterine wall.

If the labor has been properly conducted, intrauterine washes or applications are not desirable. The mouths of sinuses are naturally plugged with sterile blood clots, and these should not be disturbed.

*Chloroform* should not be given to the surgical degree of anesthesia except for instrumental or other severe operations. It should not be given on delivery by the breech after the head has crossed the perineum, for the voluntary accessory effort should be called upon from this time until labor is ended.

#### TREATMENT OF APPARENT DEATH OF THE NEWBORN.

From the Brief of Current Literature in the *American Journal of Obstetrics* for January, 1901, we take the following:—

The rules observed by Schultze are:

1. If the child is reddish blue, he leaves the cord uncut, wipes out the mouth and excites cutaneous reflexes. If there is no immediate response, he cuts the cord and plunges the child for an instant into a cold then a hot bath, repeating until it cries vigorously.
2. If the child is pale and flaccid he cuts the cord at once, wipes the pharynx and performs artificial respiration, by Sylvester's method or his own, with occasional use of the hot bath. If respiration remains superficial, the iced bath is also used.

Other methods noted in this same article are aspiration of mucus by tube, mouth to mouth insufflation, followed by artificial respiration by pressure upon the chest and the abdomen.

Mouth to mouth insufflation is opposed by some owing to the danger of rupture of the lungs, tuberculosis, and distension of the stomach. An instrument has been devised, a sort of intubation apparatus, for which is claimed it allows easy aspiration of mucus and permits the entrance of only a limited quantity of air into the lungs, avoiding the danger of rupturing the walls of the air vesicles.

#### SUPPURATIVE MASTITIS IN THE NEWBORN.

The mammary enlargement and inflammation which are not infrequently encountered in newborn children of both sexes are phenomena as yet not satisfactorily explained. Just why there should occur such glandular activity shortly after birth is not known, but that it may exist

and even advance to actual suppuration, as in an instance recently reported by Marvel (*Annals of Gyn. and Ped.*, April, 1901), is a well-recognized fact. As has been suggested, there may be some obscure relationship between the occurrence and certain metabolic changes taking place in the umbilical stump. It may be irritative in character from reflex excitation arising at this point. The theory of direct traumatism of the mammary gland is not proved and cannot be accepted. There is no substantial evidence in its support. It is true, however, that the suppurative form of the disease is traumatic in origin, and is due to the mal-directed efforts of nurses and midwives to squeeze out the offending discharge. The practical point that is suggested by the occurrence of infantile mammitis, is the necessity of careful handling of the gland and the avoidance of any attempt at evacuation of the fluid. The absence of a thick pad of pectoral muscle renders the spontaneous rupture of the pus posteriorly into the pleural sac by no means improbable; hence emollient and absorbent applications should constitute the primary treatment, with early incision, should pus develop. Above all, should vigorous manipulation of the inflamed organ be avoided in the primary stage of the disease.—*Philadelphia Medical Journal*, April 27th, 1901.

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THE ALUM ENEMA IN THE AFTER  
TREATMENT OF ABDOMINAL  
OPERATIONS.

The Chinese are yet a little slow about submitting to the opening of the abdomen. It is not that the patients object, so much as it is the friends. Still there are enough cases to warrant one's considering the article of Virgil A. Horden, of Atlanta, Ga., in the *American Journal of Obstetrics* for June of this year. Not only does he find it useful in abdominal surgery, but "after minor operations in

patients who cannot return a cathartic taken into the stomach, or when cathartics, though retained, fail to act."

As to abdominal surgery, Dr. Horden says: "There is one complication which has not kept pace with the general improvement and which claims nearly as large a percentage of victims to-day as it did ten or fifteen years ago. I refer to intestinal paresis." One does not need to have done many operations to realize the above fact, and "it follows the simplest as well as the gravest operations, and when once it has become established, the prognosis, under accepted methods of treatment, is in the highest degree unfavorable."

Dr. Dudley's description of such cases is quoted, and part of it is as follows: "The anxious face; the drawn expression; the progressively rising temperature; the nausea, at first attributed to the anesthesia, then as this subsides, the vomiting of sepsis which takes its place; the frequent regurgitation of bile mixed with blood and mucus, and growing darker and darker; the gradual failure of the pulse, first weak, then running, then thready to the vanishing point; the parietic and distended bowels which refuse to act; the rapid respiration; the cold extremities; the staring eyes; the wide nostrils, and finally the inevitable collapse." "Treatment is utterly useless. The first effort should be directed to the movement of the bowels."

And now as to the part that the alum enema plays and how is it to be given, to quote further from Dr. Horden's article, after he had exhausted all known remedies: "I directed the nurse to prepare a solution of powdered alum in a quart of warm water and to inject it into the rectum. In about ten minutes a large volume of gas was expelled, and the patient was correspondingly relieved. In an hour the enema was repeated, with similar result. From that time on the gas was expelled, at intervals

spontaneously; the pulse increased in strength and the temperature fell rapidly."

Dr. Horden has used the alum enema "in hundreds of cases and always with good results. It usually causes expulsion of gas in from five to fifteen minutes;" longer time may be required. "Sometimes necessary to repeat the injection before it will act. This can be done with perfect safety. The injection may also be repeated as often as the gas accumulates, for there may be a reaccumulation."

There may be pain, but it is not severe.

The solution is injected in the same manner as the ordinary enema—not necessary to carry high up in the colon. As to the advantages claimed, they are as follows: Promptness and certainty of its action, in which all other remedies frequently fail, and in which such failure involves the death of the patient. It is, as Dr. Horden claims, "a life-saving measure."

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# The China Medical Missionary Journal.

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## Editorial.

All communications concerning the Editorial Department of the *China Medical Missionary Journal*, should be addressed to Dr. JAMES BOYD NEAL, Chinanfu, Chefoo. All business communications and subscriptions should be sent to Presbyterian Mission Press, 18 Peking Road, Shanghai.

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DR. JOHN G. KERR, LL.D.

Our hearts are saddened as this number of the JOURNAL goes to press by the news of the death of Dr. Kerr, in Canton, on August 10th, of dysentery. Dr. Kerr has been for so many years the Nestor of the profession in China—his service here having extended over nearly half a century—that all those who have met him or have heard of his fame (and who has not?) will feel that one of the ancient landmarks has been removed, and that China and medical missionary work here are not quite the same with dear old Dr. Kerr gone.

Coming to China in 1854 he was engaged in active practice for over forty years, retiring only a few years ago from active participation in the work of the Canton hospital to devote his remaining years to the care of the "Refuge for the Insane," which he established in Canton and in which he was deeply interested. Well does the writer remember the pleading of the venerable doctor, before the Foreign Mission's Committee of the General Assembly of his Church in 1893, for liberty to raise funds in America for the institution which he had so much at heart, and when he was refused such permission, rather than abandon a scheme which he felt was so much needed in China, he began his work for the insane in a small way with the help of funds which came to him without any public appeal to individuals or churches at home. Much as we may admire the disinterestedness and pure philanthropy which prompted Dr. Kerr to enter upon this work for the insane, there can be no doubt that his fame will rest upon the noble work which for forty years he did in the Canton hospital, an institution which under Dr. Kerr's care in the past, and Dr. Swan's efficient management in the present, has grown into a position of marked

preeminence in China, doing the greatest amount of successful surgical work of all the hospitals in the empire. Dr. Kerr's fame as a surgeon was very widespread, not only in this country but abroad. It was said some years ago that only one surgeon in the world surpassed him in the number of operations for stone in the bladder. It was in this class of cases that Dr. Kerr achieved his most notable success and won the highest fame, though his operating was by no means confined to this specialty alone. The name of no other surgeon in China shines with quite the lustre of Dr. Kerr's, and so when the China Medical Missionary Association was organized fifteen years ago, he was by general consent made the first president of the Association. His interest in the Association and in the JOURNAL never flagged, but he was as ready in recent years to do his part, so far as his strength permitted, as any of the younger members.

Dr. Kerr was not only the Nestor of the profession in the line of surgical practice, he was also a leader in the teaching of medicine and the preparation of medical books. Over one hundred young men and women have gone out from the Canton hospital trained in Western medicine under Dr. Kerr, while perhaps a score of books have been issued in Chinese for use in such classes. These books, while varying much in the quality of the work, have been eminently useful, in fact have been the only books available in many branches. Modest and unassuming in his manner, a noble Christian, and a faithful physician through nearly half a century of grand service in China, Dr. Kerr's memory will be a precious legacy to the China Medical Missionary Association and an inspiration throughout our lives to us younger men, who should be the stronger to bear the heat and burden of the day for the example he has left us.

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#### MEDICAL EDUCATION.

It is very desirable that there should be a full and frank discussion in the pages of the JOURNAL of the two schemes for medical education presented to the members of the Association in the July issue; one emanating from the medical missionaries who were in Shanghai last winter; the other coming from Hankow. The two schemes differ radically, the one advocating the establishment of a well-equipped *Central Medical School*, to be located in Nanking (or some other center in the Yangtze Valley); the other suggesting the appointment of a *Medical Examining Committee*, whose duties shall consist in examining



all candidates (of twenty-three years or over, who have studied six years) who may present themselves, and in issuing diplomas to those who successfully pass the examinations.

There are grave difficulties to be met and overcome in the carrying out of either plan. In the case of a central school the principal trouble will be to raise funds for an adequate endowment and to find students who are able and willing to pay their way to go far from home to obtain an education in medicine; while in the matter of a *Board of Examiners* it will not be an easy matter to find the requisite number of men who can spare the time to go to various centers to conduct the examinations, nor to raise the funds necessary to pay their expenses, which would be considerable, nor will it be easy to persuade our students to pay \$10 for each examination.

Dr. Hodge, the president of our Association, suggests the formation of a committee, to which shall be submitted these two schemes and all suggestions in regard to the same, such committee to meet in some central place and decide upon some method of action. Such a plan seems eminently wise, provided the necessary funds can be secured, and it is to be hoped may be followed out. Let those who are interested in the matter write to Dr. Hodge in Hankow, giving him their views on the matter. Let us also have a full and free discussion of the subject in the pages of the JOURNAL.

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Would it not be well to make a change in the Constitution of our Association in regard to the term of office of those elected to the various posts? Should not the term of office be four years (or at least three) instead of two? In this land of magnificent distances and slow communications our president, for instance, scarcely receives notice of his election and gets comfortably seated in his chair, with his address to the Association sent to the JOURNAL, before it comes time to think of his successor. With such a system there is no adequate time to inaugurate and carry out policies looking to the improvement of the Association, nor for perfecting of schemes which intimately concern the welfare of the whole medical missionary body in China. Take for instance the proposals which are now before the Association in regard to the education of our medical students. Our president stands ready to do all in his power to further a wise decision as to what should be done in the matter, but by the time the discussion has progressed in the JOURNAL for some time, a committee has been appointed, and has had time to meet and make up its report, there is little reason to hope that Dr. Hodge

will still be in office to help carry out the suggestions of the committee. Would it not be well to allow the president, especially as he is ineligible for reelection, sufficient time in which to accomplish something for the Association while in office?

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In the German port of Tsingtau, Southern Shantung, which is being rapidly improved by our German consins, the metric system is in general use. During his attendance upon the annual meeting of his Mission in that port, the writer has had some opportunity to note the working of the system, and is more than ever convinced of the desirability of discarding our present clumsy and unscientific system of weights and measures and adopting the beautifully simple system of the French. In the first number of the JOURNAL, issued under the present editor's care, the adoption of the metric system in our hospitals and dispensaries was advocated, but so far only one member of the Association has expressed himself in favor of such a change. Nevertheless it is to be hoped there are many more who would be glad to see such an improvement started in China, and who would be glad to assist, as far as it is possible for them to do so, by teaching their assistants to use the metric system in the daily dispensing. It no doubt will be difficult for a time to accustom ourselves to using a new system, but I am convinced that the advantages to be gained will more than compensate for the trouble involved. Will not those who would favor such a reform drop a line to the JOURNAL for publication?

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The editor would beg contributors and correspondents not to use Chinese Romanized expressions in their writing without giving the equivalent in English. In most cases it is possible for the editor to supply the necessary English rendering before sending it to the printer, but in other instances it is impossible to know what is meant, and in such cases there seems no alternative but to cut the passage out in which the unintelligible expression occurs.

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Another favor the editor would beg from contributors and correspondents is that they would write on only one side of the paper and that they would always write "and" not "&." In every case it is necessary to go over all manuscript before allowing the printer to begin setting it up, and change all "&s" to "ands," and as most contributors use the abbreviated form it makes an otherwise neat looking manuscript appear rather slovenly.

## Hospital Reports.

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The only Report of hospital work which has reached the JOURNAL since the last issue is that of the ALICE MEMORIAL AND NETHERSOLE HOSPITALS in Hongkong, under the care of the London Missionary Society. From this report the following quotations are taken :—

“The in-patient and out-patient work has been well maintained during the year; both hospitals showing an increase in the number of patients treated.

It is the custom of the directors of the London Missionary Society to review its work every ten years, and this year the directors have under review the years 1891-1900 inclusive. The Hongkong hospitals during those years have treated 7,177 in-patients and 97,838 out-patients. The most noteworthy event has been that the Alice Memorial Hospital, founded in 1887, was in 1893 supplemented by the Nethersole Hospital (the gift of W. H. Davis, Esq.), in the wards of which women and children are treated without the proximity of male patients, a matter of no little moment in China. Since the opening of the Nethersole Hospital obstetric cases have been treated. In all forty-two obstetric cases have been admitted to Nethersole Hospital, beginning with one in 1894 and rising to seventeen in 1900. From the nature of most of the cases there is little doubt that if they had been under Western treatment from the beginning of labour much needless loss of life would have been averted. At present there is only one very small room available for these cases, but this year we have asked the directors of the London Missionary Society to grant a site immediately behind the Nethersole for a building to be special-

ly set apart for midwifery. Already several ladies in Hongkong have kindly taken an interest in this scheme, and we will be glad to receive help in thus endeavouring to extend to Chinese women the privileges enjoyed by even the poorest women in London. The teaching of the truths of Christianity has been carried on systematically throughout the year.

### *The Out-patient Department.*

The number of cases, including 111 vaccinations and 535 dental patients, has been :—

New cases .....	12,193
Return visits .....	5,968

Making a total of 18,161

In the out-patient room, ‘First come, first served,’ is the rule; a series of numbered bamboo slips handed to the patients as they enter, securing that no preference shall be given to either race or religion. Before the consultant for the day arrives, all new cases are registered and provided with prescription papers; and on the arrival of the medical officer on duty he is assisted by three students, who act as interpreter, clerk, and dresser respectively.

Having passed under due examination, the large majority of the patients either carry their papers to the dispensary, where three students are on duty, and there receive all needed medicines free of charge, or enter a small room for surgical purposes, adjoining the consulting room, where they are attended to as their cases may demand. Such patients as have need of hospital treatment are passed directly to the wards, in the Alice Memorial Hospital or the Nethersole Hospital, as may be desirable.

*The In-patient Department.*

Admission to the wards is usually through the out-patient consulting room, but cases of accident and acute disease, and patients bearing notes of introduction from subscribers to the funds, are admitted to either hospital at all hours of the day and night. No charge is made for medicines, clothing during residence, bedding, attendance, etc., and only a small proportion of the patients are able to pay for their food (ten cents per day).

In the Alice Memorial Hospital men only are received as in-patients, and the three wards—medical, surgical, and ophthalmic—have accommodation for fifty-three beds. In the Nethersole Hospital there are three wards for women and children with an aggregate of thirty-five beds.

The work done in the in-patient department may be thus tabulated:—

	A.M.H.	N.H.
In-patients remaining in hospital on 1st January, 1900 .....	27	23
In-patients admitted to hospital during the year 1900 .....	465	299
Total number treated as in-patients	492	322

Of these there were:—

Discharged cured ...	295	189
Discharged relieved	125	65
Discharged on other grounds .....	21	18
Died in hospital.....	20	24
	461	296

In-patients remaining in hospital on 1st January, 1901 .....	31	26
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*Operations.*

116 operations, most under *chloroform* or *cocaine*, were performed in the two hospitals during 1900, with results as under:—

Cured .....	88
Improved .....	24
Died .....	4

In these figures no account is taken of the dental operations, nor of a very large number of minor surgical operations, such as abscesses, reduction of simple dislocations and of fractured bones, removal of nasal polypi and other small tumours, etc., performed daily in the out-patient department by the visiting medical officers, the house surgeons, and the senior students."

Twenty-three students have been under instruction during the year.



## Medical Discussions in Shanghai.

The following reports of discussions in Shanghai during last winter, kindly sent in by the secretaries, Drs. Anderson and Judd, though somewhat late, may be of interest to our readers :—

### DISCUSSION THAT FOLLOWED THE READING OF DR. POLK'S PAPER UPON "WOMEN'S MEDICAL WORK."

This paper was reported in the CHINA MEDICAL MISSIONARY JOURNAL of April, 1901, as read before the Shanghai Medical Missionary Association in January last. After Dr. Polk had read her paper, discussion was invited by the chairman, Dr. O. L. Kilborn.

Mr. WM. PRUEN, L.R.C.P. and S., said he found in his native practice that a larger percentage of women called for his assistance for burns and scalds than for anything else. Referring to what Dr. Polk had said about midwifery cases he reported that there is a readiness in the province of Kwei-cheo to call in the foreign physician in labour cases.

Mr. H. W. BOONE, M.D., desired to know how the gospel was received by women.

Miss M. H. POLK, M.D., in reply, said she had been only four years in China, and could not understand all that the patients said, but remembered one woman who requested the mandarin to set free the *ricsha* coolie who had run her down, because the gospel had taught her to forgive.

Mrs. R. GIFFORD KILBORN, M.D., said the women's hospitals in Western China were as well equipped as the men's, and that in Szechwan free access was had to the rich women. There is a large field for married lady doctors.

Mr. JOHN A. ANDERSON, M.D., thought different districts of China differed greatly. In western Yunnan he had ready access to homes of the rich, and he attended numbers of

wealthy ladies in the Yamêns and private houses; whereas in T'ai-chow, where he is now labouring, there are only a few calls to such cases. Referring to what had been said in the paper about patients bringing their friends to the hospital with them, he said he rather liked his patients to bring friends or servants with them. It helped to keep the patients from being homesick, and it brought more people under the influence of the gospel. He found superstition a real hindrance in the work. Two cases were mentioned to show the transforming power of the gospel in the lives of Chinese women.

Mr. W. E. MACKLIN, M.D.: "Luck" has great influence amongst the Chinese. Nanking native doctors have a saying, "I have had ten years of luck, come early." If the Chinese think a doctor has luck, they will run to him, but they believe the luck will sometimes leave him, and if they think it has left, they go elsewhere. Sometimes we have a run of success, and at other times a run of failure. It is very trying to have the latter, especially if it comes at the start of one's work and before a reputation has been gained. I operate on all cases. As a rule only difficult labor cases come to us.

Mr. W. R. FARIES, M.D., also found that the Chinese looked closely for luck, and if the doctor's luck in any particular branch seemed gone they would leave him for a time till the luck returned. He thought the late Dr. Mary Brown, of Wei-hsien, had quite as much access to the rich women as he had to the rich men.

Mr. O. L. KILBORN, M.D., thought the working position of the married

layd physician quite as good as that of the unmarried. What is lost in one direction is made up in another.

Miss MARGARET H. FOLK, M.D., in replying to some of the criticisms upon her paper, said that in comparing the women's hospitals with the men's, she took into account the question of where the money came from. Much of the money for the men's hospitals came from the Chinese; whereas nearly all for the women's came from home lands. In speaking of access to the rich Chinese women, she was comparing this with the access which the male physicians had to wealthy men; and at Soochow she saw that Dr. Park had access to a larger percentage of rich men than she had to rich women. She still felt it was rather a case of sinking a physician into a nurse when a lady doctor gets married.

Dr. W. R. FARIES, of Wei-hsien, desired to pay a tribute to the late Dr. Mary Brown. She had entrance to all the rich families in Wei-hsien. The Chinese ladies used to invite her to their social parties, and she spent a great amount of time among them. Some of the ladies also accompanied her in her work as she visited patients in her hospital wards. After a time, when the ladies did not believe the gospel, she got discouraged and stopped attending social parties. Often she was called to visit out-patients and frequently would be out all night in all sorts of weather. In this way she exhausted her strength. She trained her own assistants, who were native women; one of them, a widow, being chief assistant and capable of caring for the work in Miss Brown's absence. This assistant was murdered in Shensi. Another is married and doing medical work upon her own responsibility. A third is unmarried and is an assistant in the women's work. Dr. Mary Brown believed that the women patients should pay, and her own medical work was practically self-supporting. Her assistants knew no English.

DISCUSSION THAT FOLLOWED THE READING OF DR. BUTCHART'S PAPER UPON  
"HOSPITAL CONSTRUCTION."

The paper was reported in our April JOURNAL.

Dr. H. W. BOONE said: I strongly advise that large buildings be broken up. When there is a bad case, it affects the whole of a building. As regards iron roofs, I know iron roofs thirty years old that are still good and have not required repairs. A doctor from south China reported that iron roofs are apt to rust in the south of China.

Dr. W. E. MACKLIN thought the reception room for seeing patients should be a separate building from the hospital building. The hospital building should have a south exposure and should not be too deep a building. Dark hallways should be avoided. The cottage hospital is the ideal for China—with a large verandah. Have private wards. The shower bath is the most economical bath, using a head for hot and cold water. Some walls are lime-washed, others have hard plaster finish, i.e., plaster of Paris and painted. It can be washed and disinfected. Keep your drug room locked. Use cypress wood for floors. Pitch pine will soon rot. Have ventilation under iron roofs to keep the hospital cool in summer. Some allow smoking, but others forbid it and only allow it on the verandah. No opium smoking allowed.

Dr. JAMES BUTCHART: I should have said in my paper that the roof should project eighteen inches to protect the walls. The best places for an operating room are the N. E. or N. W. corners.

Dr. BABBINGTON showed and explained a fine picture of Dr. Main's Hangchow hospital. The picture was by a native artist.

Votes of thanks were accorded Dr. Butchart for his most valuable paper and to Dr. Hare for his conduct in the chair.

The discussion which followed Dr. Gifford Kilborn's paper on "Chinese Babies" turned largely on the distribution of various diseases in different parts of China.

Rickets is everywhere conspicuous by its absence.

Scarlet fever and diphtheria occur in North and Central China, but are unknown in the south. Drs. Neal and Hare had, however, never seen them in their stations at Chi-nan-fu (Shantung) and Kia-ting (Sichuan). Tuberculous disease seems to affect the joints and glands mostly.

Favus, ringworm, cancrum oris, keratitis, and sloughing cornea, enlarged liver and spleen were also mentioned as being more common than in the homelands. A variety of local Chinese customs were also mentioned—connected specially with confinements and the washing (or want of washing) and dressing of infants.

In the discussion which followed the reading of Dr. Neal's paper on a "Central Medical School" the speakers were practically unanimous on the need and feasibility of such a school.

*Nanking* was thought the best place for the following reasons:—

It is central, and its language very generally understood.

It has a large population and several hospitals and dispensaries with large attendances.

It has a large missionary community with a good number of med-

ical men who could give help in teaching.

It is reckoned a fairly moral city, and the native work would be some four miles from the foreign community.

The *Chinese language* was considered the best medium of instruction, because teaching in English would preclude a large number from joining.

English-speaking Chinese can usually earn larger salaries in business than in medical work, which would tempt many to forsake their studies for more lucrative posts.

It was suggested that some students sent to Nanking for training would be unwilling to return to their former teachers, but experience has shown that, though this is a real source of risk, in a good proportion of cases a sense of moral obligation has induced them to return, though the position be less lucrative than others.

Dr. Boone had suggested the formation of a central medical school in Nanking, with teaching in the Chinese language, as early as 1890 in the C. M. M. JOURNAL.

Drs. Boone, Butchart, and Judd were appointed a committee to draw up a number of propositions on this subject to be submitted to the next meeting.

. . . . .

At the two final meetings the propositions submitted by this committee were discussed and revised and finally adopted as published in the July issue.



## Correspondence.

*To the Editor of the*

CHINA MEDICAL MISSIONARY JOURNAL.

DEAR DR. : Our district city 儋州城 (Dam-ciau-tia) has been overrun with plague for the last six months.

**Plague in Hainan.** The villages between that place and this have become infected to a large degree, and even inland as far as our station here as No-doa we have just passed through a season of it, having twenty or more cases here.

In the district city it has been very fatal. We know also that in some of the villages where the plague was prevalent it became so fatal that whole villages left their homes and came, some to No-doa and some to other villages about here, to get clear of it. In that way our No-doa market became infected.

These cases that have occurred here in the market have been very light ones, with the exception of one case which was very severe, but not fatal. Manson would call the light cases abortive or larval plague (pestis ambulans).

The symptoms were ordinary, but mild in most cases; fever  $103^{\circ}$  to  $104^{\circ}$ . The buboes in some cases were small, about the size of a robin's egg and in some nearly as large as one's fist. In some cases they occurred in the locality of the glands and in other cases were irregular, occurring on the squamous portion of the temporal bone, on the anterior surface of the tibia, on the elbow joint, on the shoulder, over the ribs, etc., etc., and in some cases on the breasts. They came in some instances on the feet and ankles first.

Only one of the cases which came under my notice was of the hemor-

rhagic variety—a woman of about thirty-five years, of a respectable family. In her case it came on with high fever and general depression. She told me she was very fearful she would not get well. Her eyes were open too wide and staring, and she seemed to have great pain in her bones. She came out of her dark bed-room and I looked her over. Her face was swollen and her skin dry. Her mother showed me one bubo which was on her right shoulder, over the acromion process of the scapula and partly over the clavicle. It was a very large one, tense and painful and with a great deal of infiltration of the surrounding tissues. I could not find any ecchymotic effusions in this case. The bubo finally broke and bled, and pus flowed from it mixed with the blood. The pus was very thick, like that from a rotten, bad leg sore. It will form a deep peculiar scar, I think. She complained that nothing would stay on her stomach, and vomited food and medicine for two days. Her tongue was swollen and coated. Her pulse full and fast, but I could not see any other change in it or in her heart sounds, which were normal as far as I could see.

After the bubo broke (I intended to lance it, but it ripened sooner than I thought it would) she soon recovered, although the bubo was slow in healing.

When I first went to see her I thought it was a case of fever (malarial intermittent) and treated her accordingly, thinking at the time that she was about to have an abscess along with it. But later when I found that several people in the market were having these peculiar swellings, with fever, I found out



what the true cause of the trouble was, with the help of the natives, I admit, for I had never seen plague, and it did not occur to me that it might be plague until the other cases came to my notice, and in fact until my assistants told me that some of these cases were refugees from our district city, fleeing from there because of it.

The people here say that they are in the habit of examining any dead rats they find, and that if their bodies swell up out of all proportion, they surmise it was plague that killed them. But if the bodies of the dead rats do not swell, that it was not plague that killed them and that in the latter case they need not leave their houses. We had two rats die in the hospital a few days ago. We found them on the floor in the morning and asked the natives about it, and this is what they told us. The worst of the season of plague in this district is over, I think, although four cases are reported in Nam-fong, where we have a dispensary.

They tell me that having it lightly this spring, it is likely to break out again in the fall or next spring, but we will hope for the best.

Respectfully yours,

ERNEST D. VANDERBURGH.

Dr. H. N. Kinnear, of Foochow, writes as follows :—

**Iron Wire Snakes.** "I am curious to know what experience other workers in China have had with what our Foochow people call the 'Iron Wire Snake.'

A year ago there came to our clinic a boy of nineteen, who reported that when he was eight years' old he was playing out of doors, probably wearing no clothing, when one of these little snakes wrapped itself around his penis at about the middle. It was impossible to get it off for some hours and the resulting ulceration

had left a deep sulcus of cicatricial tissue entirely surrounding the organ and interrupting the urethra. The urethra was of full calibre on both sides of the fistula. He came to us because he was about to marry and wished the imperfection removed, but left again before anything was done for him.

My students fully credited the story of the snake, and told me that they sometimes fasten themselves upon the fingers of men working in gardens, strangulating them until they slough off, that they have also been known to strangle the tails of cattle in the same way. The popular belief seems to be that it is almost impossible to remove them when once wrapped around a part.

The snake is about six inches long, shaped much like a common earth worm, has about the same diameter, a trifle smaller perhaps and darker in color. Have seen a specimen, but have not done any experimenting with my own fingers for the sake of science. Am willing to gain a knowledge of the subject at second hand if any one is ready to impart it."

LONDON MISSION, YO-CHOW, }  
HUNAN, May 20th, 1901. }

DEAR MR. EDITOR :

I should like the members of our Association to know that medical mission work, on a systematic basis, has at length been started in this city, and so if you can afford me space in the JOURNAL, I send you the following brief account.

I had formerly hoped to open a dispensary in the autumn of last year, but the troubles of the summer forced us to leave Hunan for a time, and so all our plans were upset. Then I hoped to open early in the spring of this year, but here again

I was disappointed, owing to the tardy way in which the workmen made the necessary alterations. I say "alterations" because we are living in Yo-chow in adapted native premises, and the hospital part of the place had also to be adapted very considerably before it was suitable for our purposes.

We have now a small ward for about six beds, operating room, out-patient dressing room, consulting room, and dispensary, besides kitchen, etc., and rooms for assistants.

But though much delayed from one cause or another, we have at last "opened shop." Our first "out-patient day" was last Tuesday. There was no formal opening of any kind. Notices had been put up some days previously to let the people know, so on the Tuesday morning they came to our street-chapel door and applied for tickets. I gave the gate-keeper fifty tickets to give out to them, thinking fifty quite sufficient for a long and hard afternoon's work. The tickets were soon all gone, and then the people sat down and waited in the chapel and listened to the preaching. I began to see them at two o'clock, and then in they came, one after another, in their proper turn, until 6.30 in the evening. We were all thoroughly fatigued at the end of it, for besides the constant pressure of the work, the weather was peculiarly hot and oppressive. You will see from this that the people here are not slow to consult the foreign doctor. All the available tickets were sold (we charge forty cash to each new patient), and how many more we *might* have sold I don't know. But I must stop now. Our hearts are in this work, and I thought it might be of interest to let others know how that medical mission work had been started in yet another of the cities of China.

Very sincerely yours,

ERNEST C. PEAKE, M.B. (Ed.)

CHAO-CHOW-FOO, SWATOW, }  
9th August, 1901. }

To the Editor of the C. M. M. J.

DEAR SIR: I wish the Hankow brethren had given us their reasons why they think

it better for the Association to take up such a scheme as their examination one rather than to establish a central medical school. Without their reasons it is somewhat difficult to discuss their proposal. I thought at first the idea was something like this: There are already medical schools giving instruction in Chinese or English at Canton, Shanghai, Nanking, Peking, and perhaps some other centres, and we at Hankow are forming one, so that the great need is not for a central medical school but for a scheme of examinations, so that a definite standard can be set for the whole empire. But this is evidently incorrect, for the Hankow letter expressly says the scheme is for students studying in the various mission hospitals, etc., throughout China. At how many hospitals in China can a good course be given in the subjects of the first, second and third examinations of the Hankow scheme? Practically only where there are two men with competent native assistants, or at places like Hankow or Canton, where a staff of teachers can be formed. It is comparatively easy for most of us to give our men a good clinical training, and this supplemented with the study of suitable text-books would make it easy for many to prepare students for the fourth examination. But how many of us have time to teach at all thoroughly the subjects for the other three and especially to give practical and laboratory courses? This scheme will only be applicable to those hospitals or centres where there is an adequate teaching staff.

The point at issue would seem to be: one central school under the auspices of the Association or a num-

ber of local ones, either denominational or interdenominational. For my part I favour the former. It will be the Association school; the Association will see to it that there is an adequate staff of teachers and that a thorough training is given, and it will set free the time now spent by a number of us teaching and preparing to teach our students.

A central medical school will not by any means solve the problem of medical education in China. In the more remote regions there will be some men who cannot or will not go to the central school, and for them the continuance of some of our hospital courses of study will be necessary. For these students a scheme of study and examinations under the direction of the executive committee of the central school will be advisable, so that there may be a certain standard up to which one could teach, by which one could measure one's students' attainments and which would serve as a stimulus to the men themselves. I have often longed for such a scheme to be instituted. In this prefecture I know that for a good many years to come the majority of would-be-practitioners of medicine will not be able to go far afield for their instruction, and this is doubtless true of many other places, so that in planning for those who can take the higher course let us not forget those who can only take the lower. Although with the exception of chemistry it will rarely be possible to give them laboratory courses, yet five or six years of study in a dispensary or hospital, with ample clinical advantages, will enable us to turn out some very useful men who will be fitted to relieve an enormous amount of human suffering.

Whether we have the central school or not, let us have the two grades of examinations.

Yours very sincerely,

PHILIP B. COUSLAND.

**Training of Medical Students.** Dr. Main, who has had large experience in training medical students, writes in the following vigorous style from Hangchow under date of 15th June, 1901:—

"I am convinced of the urgent necessity in China of a thoroughly qualified medical mission native agency, and consider no labour lost in trying to produce it. The demand for Western methods of treatment is increasing rapidly every year, and as the skill of medical missionaries and the success of their trained natives become wider known the demand will be still greater. At present we medical missionaries are unable to supply the demand, and we are not likely soon to have medical missionaries out from home in sufficient numbers to do the work, so if natives are not trained the countless sick sufferers must be left to the native quacks to torture and kill. From a humanitarian as well as Christian point of view this work demands *our* attention and the hearty support of every right-minded Christian. The success that has followed those who have passed through our hands abundantly justifies the amount of money and time spent in educating them. We consider the training of natives the most important branch of our work, and we are prepared to face the risk of some of them being led away by the desire to make money, which is likely to happen to those whose spiritual condition is not high and who prefer dollars to the salvation of souls. Those who are really converted are not likely to leave mission work for lucrative posts. More than once tempting salaries have been offered to several of our assistants, three or four times the amount they get from us, and it speaks well for their Christianity that they continue with us in the blessed work of healing the sick and preaching the gospel.

Until a central medical school is established those of us who have been

giving much of our time to the education of natives should continue at it with greater determination than ever."

DEAR SIR: In the July No. of the JOURNAL, two schemes, having reference to medical education, are put before the C. M. M. Association.

1. *A central medical school* (at Nanking or Hankow).

2. *A uniform scheme of examination* for all China.

I wish to submit a few of the reasons why I regard the examination scheme, in one form or another, as the only feasible one.

I. *The greatness of the demand for medical education, makes one central medical school palpably insufficient.*

The demand in China for medical education increases yearly by leaps and bounds. One feels instinctively these days that education is in the air, and that every missionary society is face to face with the educational question in all its branches, as one of the chief factors of the missionary problem of the future.

Some societies have been working at this problem for many years, some for a few years, and what more reasonable than that they should wish to make the medical part of the education of a student fit in with his previous training. High-schools, colleges, universities (different names for the same things) have been started in many of the large centres in China for the education of the youth of the churches, as well as for those outside the Christian church. Now many if not most of these schools teach English; they have been compelled to do so, and most of them teach chemistry, physics, biology and other sciences, and they would naturally wish to see some scheme adopted which would continue the student along the lines on which he had so well begun.

These facts and many others do not fit in with the scheme proposed, viz., that of one teaching centre for all China, but the biggest fact is, what one medical school can cope with the not inconsiderable number of those thousands of students in our Mission colleges who want to study medicine? No! A dozen medical schools are none too many for a task so great.

II. *The removal of students to a distance from their native place has several serious drawbacks.*

1. *The question of dialect.*

This is too obvious a difficulty to need much comment. What is a Cantonese to do in a Nankin school, or a lad from Foochow or Amoy in a Hankow school?

2. *The question of expense.*

This would hamper all but the rich and those who lived near the centre chosen. The expenses of education will be great enough without the increased expense of long travel.

3. *The removal of the student from moral help of Christian parents and others.*

We all know from personal experience or otherwise how many of the youth of our churches are hedged around by the Christian influence of parents and friends, of godly teachers and missionary pastors and others whom they have come to know and love and who in turn have come to know and love them.

Wrench them from these surroundings, throw them out into a strange city and among strangers, and we can easily foresee the result to not a few. If this can be avoided, many wrecks will be saved. There is a great deal in sympathy in saving men, and this would be in many cases lost, not from want of will or good intent on the part of the new teachers but from want of knowledge, gained only after years of acquaintance.

III. *The financial problem in connection with a central medical school presents peculiar difficulties.*

1. *In connection with the foreign staff.*

Several questions arise under this head, such as: Who are to be the teachers? Are they to be those already on the spot? If so, then who is to pay their salaries? Are others to be brought in from other parts of China? Who is to build houses for these?

2. *In regard to school buildings and apparatus.*

Who is to supply these, and who are they to belong to when supplied? Many thousands if not tens of thousands of dollars would be needed to adequately meet these needs. When we consider the difficulties the Association has had over paying for its magazine and the appeal for help of the nomenclature committee, we wonder whether the fact of a school being called the Association school would bring in a flood of funds. We doubt it, but even this would not stagger us, were the object one about which as an association we could be anything like unanimous and enthusiastic. Supposing the funds were raised and money spent in plant, etc., and then other schools arise. Whose shall these things be? I think much dissatisfaction would result and all through the fact that the scheme in its conception is not one that is fitted to meet the need it was intended to supply.

How then shall that need be met?

*Counter Proposal: A Uniform Scheme of Examination for all China.*

I. A number of medical schools, more or less developed, exist already in certain large centres in China, e.g., Hongkong, Shanghai, Peking, and in a number of other centres. They have apparatus and plant already in hand. Instead therefore of having such schools denominational as most have been in the past, let them be interdenominational or union schools. Let the missionaries and missionary societies of a province or of a large district combine to form one large

central school fed from the colleges and hospitals around. Let them elect a dean and make all arrangements necessary and let the expenses be met by the various societies represented. There ought to be little difficulty in starting quite a number of such schools throughout this vast empire.

II. The question of expense in travel of the students would thus be simplified, also the question of dialects and of breaking with moral and Christian influences already alluded to. Then the financial problems as to salaries of professors, housing of ditto, purchase of apparatus, etc., would all be simplified, and there would not be the danger that there would be in the other scheme of a large section losing interest in the affair and the difficulties consequent thereon. The interest would be more concentrated and more natural and therefore more lasting.

III. When we consider the large amount of clinical material available all over China, the large number of medical missionaries willing and able to teach, the immense gain it is to the medical missionary himself to have to freshen his knowledge to enable him to teach, the fact that many societies have sent out two men to the larger hospitals to enable teaching to be done, the fact also that many of those whom we wish most of all to teach could not possibly leave for distant parts, because required for some part of the day in hospital or dispensary,—we come to the conclusion that it will take many medical schools to meet the real needs of this empire.

IV. A uniform scheme for teaching and examination would be an immense boon to those several institutions throughout the provinces. It would standardise the teaching, it would be a bond of union, a guide to the teacher, and a proof to teacher and taught as

well as to outsiders and to prospective patients or hospitals that the knowledge of the students was such as to entitle them to the respect and confidence of those to whom they might be sent or called. I therefore conclude that it would be manifestly unfair to class any one school as the school of the Association and that the scheme for a uniform examination is the only one that meets the needs of medical missions in China.

THOMAS GILLISON, M.B., C.M.

LONDON MISSION,

HANKOW, 4th September, 1901.

NANKING, July 30th, 1901.

DEAR DOCTOR: From your editorial on "Local Branches of the China Medical Missionary Association," in the last number of the JOURNAL, it is evident that you were not aware of the fact that we have a local society here in Nanking, first organized September 4th, 1886, and which meets regularly every month, except during July and August. It remained dormant for a few years, but during the first few years of its organization and during the past four years we have had regular meetings and found them very helpful. This past winter and spring Nanking had nine foreign medical missionaries resident here.

Yours very truly,

ROBERT C. BEEBE.

Dr. Mills who, it will be remembered, was burned out at Tsao-shih, near Hankow, last year, an account of his experiences having appeared in the JOURNAL, writes us as follows, under date of 25th May, 1901:—

"You will be glad to hear that we are all peaceful here; all the growing generations are being taught to drop the 洋人 for other more polite designations, and even dogs are losing

the deadly interest they once took in our lower extremities.

Our hospital has been open about one and a half months. I saw about 1,000 patients the first month and have a decent number of operations. The chapels get well filled with attentive listeners and our school has over twenty boys.

The compensation has been sent to Hankow, but has not got to our pockets yet. The old man in whose house I was sheltered has been presented by the county magistrate with a huge board, which took eight men to carry and which had on in black letters on a gilt background 善蔭一鄉, 'His virtue protects a whole country side.' It was escorted by numerous umbrellas, dogs, and children, and much exploding of gunpowder. The board is hung up over his front door; the rest of the population are rather sore after having to pay up the indemnity; the chief offender, a cart shop man, was fined over 250 strings, but was granted a degree to make him grateful. The little magistrate who refused me help and the gentleman who was responsible for the peace on that day both died before December; and as an additional feature, the gable end of the house fell in and killed four looters the day after the fire; so everyone thinks the hand of God was very clear in it.

My colleague has suddenly taken to natural history; he found a big scorpion in his study and has read of several poisonous varieties since; the result is he has a nervous time toward dusky eve.

We are surrounded by medicine shops about here, and they pay three cash each for these beasts. The origin of scorpions is said to be that one of these itinerant quacks who rides a camel had a live scorpion in his basket, and when he woke up one morning in an inn on the street the scorpion had vanished. This place seems as if it could not produce anything bad; it's all imported; even the B-b which is in tremendous evi-

dence just now, is said to have been brought from Hankow (probably the steamers)."

Dr. Gillespie, who spent the winter in Chefoo, writes from Newchwang, Manchuria, under date of 6th July: "It was decided by the committee that Mrs. Gillespie and I should stay here and continue our study of Chinese for the summer. We both passed the first examination (one year) on 22nd April, the day after we arrived here.

Then I took charge of the port practice for a month while Dr. Daly went to Shanghai to meet his wife, who went home to Ireland last year when the troubles broke out. We have now been back at Chinese again for six weeks.

Our committee meets again (D. V.) in November, when I shall probably be appointed to begin medical work somewhere.

Nearly all our mission stations are again occupied by missionaries, and two of the Scotch missionaries have taken their wives with them."

Dr. Cousland writes from Swatow under date of August 8th:—

"We are all up at our hill cottage and enjoying the coolness. My wife and the children have been up for some time and are looking well. If I am not too sleepy and lazy I shall try some translation. I have found it impossible to get time at C. C.-foo for our committee work. The hospital work was heavier than usual, and there were many other branches of work to look after. I have lost about ten pounds in weight since I left Shanghai.

Everything quite peaceful again. We read of the Boxers giving more trouble in some districts. I don't know that I have much news for the JOURNAL. A patient has built a chapel in his town and given us the use of it as long as we like. I went down to open it the last Sunday of July,

and there was a capital attendance. At Swatow the old hospital is about to be pulled down and two new ones built, one for women and one for men. They will accommodate over 300 in-patients. Doctors in charge: Alexander Lyall, John Dalziel, and Tina Alexander."

Dr. Lewis writes from Peking that he has hopes of being sent home to America in the autumn with the regiment to which he is attached. If so he will resign from the army while there and return later to take charge of the medical work of the Presbyterian Mission in Pao-ting-fu. The Mission has been presented with a most desirable site outside the walls of Pao-ting by the merchants of the city.

Dr. Judd, of Tao-cheo-fu, 400 *li* from Kiukiang, writes:—

"I am alone at present in a rented house, hoping to begin to build soon. My brother who was to work here too was wired for and left here last night for Shan-si to take the place of those who were removed last year. We had only been together five days, but feel it the Lord's will as far as we know it."

Dr. Smyth, of Chou-ping, Shantung, writes from Shanghai, under date of 31st July, of his departure for England, where he will remain until the early spring of 1902. Drs. Watson and Paterson, of the same Mission (English Baptist), are also at home on furlough.

Dr. Maxwell writes from Chang-poo to say that his station is in Fokien, not in Kwangtung, as stated in the July issue under "Hospital Reports;" and also to say that the medical work in Chang-poo is under the joint care of Dr. Howie and himself, not, as would seem to be indicated by the language used in the last issue, under Dr. Maxwell alone.

**BIRTH.**

At Macao, July 16th, 1901, the wife of W. H. DOBSON, M.D., A. P. M., Canton, of a daughter, Winifred.

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**MARRIAGE.**

At Shanghai, August 17th, JOHN W. BRADLEY, M.D., to Miss MAMIE B. McCOLLUM, S. P. M., Suchien.

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**DEATHS.**

At Wuchang, July 25th, WINIFRED BATEMAN, wife of P. L. McAll, M.D., L. M. S., Hankow.

At Canton, August 15th, J. G. KERR, M.D., A. P. M. Forty-seven years a missionary.

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**DEPARTURE.**

From Shanghai, July 20th, A. M. WESTWATER, M.D., U. F. C. S. M., for Scotland.

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